

18. P. 7

THE
ESSAYS
OF
FRANCIS BACON,
BARON OF VERULAM,
VISCOUNT ST. ALBAN,
AND
LORD HIGH CHANCELLOR OF ENGLAND;
CONTAINING
THE ADVANCEMENT OF LEARNING,
NATURAL AND HUMAN PHILOSOPHY,
MORAL KNOWLEDGE, THEOLOGY, &c.
TO WHICH IS ADDED
HIS CELEBRATED HISTORY OF
LIFE AND DEATH.
A NEW EDITION.
IN TWO VOLUMES.

VOL. II.

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• T O

THE KING.

THERE were under the law, excellent King, both daily sacrifices, and free-will offerings: the one proceeding upon ordinary observance, the other upon a devout cheerfulness: in like manner there belongeth to kings from their servants, both tribute of duty, and presents of affection. In the former of these I hope I shall not live to be wanting, according to my most humble duty, and the good pleasure of your Majesty's employments: for the latter, I thought it more respective to make choice of some oblation, which might rather refer to the propriety

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and excellency of your individual person, than to the business of your crown and state.

WHEREFORE representing your Majesty many times unto my mind, and beholding you not with the inquisitive eye of presumption, to discover that which the scripture tells me is inscrutable, but with the observant eye of duty and admiration: leaving aside the other parts of your virtue and fortune, I have been touched, and possessed with an extreme wonder at those your virtues and faculties, which the philosophers call intellectual: the largeness of your capacity, the faithfulness of your memory, the swiftness of your apprehension, the penetration of your judgment, and the facility and order of your elocution: and I have often thought, that of all the persons living that I have known, your Majesty were the best instance to make a man of *Plato's* opinion, that all knowledge is but remembrance, and that the mind of man by nature knows all things, and has
but

but her own native and original notions (which by the strangeness and darkness of this tabernacle of the body are sequestered) again revived and restored: such a light of nature I have observed in your majesty, and such a readiness to take flame, and blaze from the least occasion presented, or the least spark of another's knowledge delivered. And as the Scripture says of the wisest king, *That his heart was as the sands of the sea*; which though it be one of the largest bodies, yet it consisteth of the smallest and finest portions: so hath God given your majesty a composition of understanding admirable, being able to compass and comprehend the greatest matters, and nevertheless to touch and apprehend the least; whereas it should seem an impossibility in nature, for the same instrument to make itself fit for great and small works. And for your gift of speech, I call to mind what Cornelius Tacitus saith of Augustus Cæsar; *Augusto profluens et quæ principem deceret, elo-*

quentia fuit : For, if we note it well, speech that is uttered with labour and difficulty, or speech that favoureth of the affectation of art and precepts, or speech that is framed after the imitation of some pattern of eloquence, though never so excellent ; all this hath somewhat servile, and holding of the subject. But your majesty's manner of speech is indeed prince-like, flowing as from a fountain, and yet streaming and branching itself into nature's order, full of facility and felicity, imitating none, and inimitable by any. And as in your civil estate there appeareth to be an emulation and contention of your Majesty's virtue with your fortune ; a virtuous disposition with a fortunate regiment ; a virtuous expectation, when time was, of your greater fortune, with a prosperous possession thereof in the due time ; a virtuous observation of the laws of marriage, with most blessed and happy fruit of marriage ; a virtuous and most christian desire of peace, with a fortunate inclination in your neigh-

bour princes thereunto : so likewise in these intellectual matters, there seemeth to be no less contention between the excellency of your Majesty's gifts of nature, and the universality and perfection of your learning. For I am well assured, that this which I shall say is no amplification at all, but a positive and measured truth ; which is, that there hath not been since Christ's time any king or temporal monarch, which hath been so learned in all literature and erudition, divine and human. For let a man seriously and diligently revolve and peruse the successors of the Emperors of Rome, of which Cæsar the dictator, who lived some years before Christ, and Marcus Antoninus, were the best learned ; and so descend to the Emperors of Græcia, or of the West ; and then to the lines of France, Spain, England, Scotland, and the rest, and he shall find this judgment is truly made. For it seemeth much in a king, if, by the compendious extractions of other men's wits and labours, he can
take

take hold of any superficial ornaments and shews of learning, or if he countenance and prefer learning and learned men: but to drink indeed of the true fountains of learning, nay, to have such a fountain of learning in himself, in a king, and in a king born, is almost a miracle. And the more, because there is met in your majesty a rare conjunction, as well of divine and sacred literature, as of profane and human; so as your Majesty standeth invested of that triplicity, which in great veneration was ascribed to the ancient Hermes; the power and fortune of a king, the knowledge and illumination of a priest, and the learning and universality of a philosopher. This propriety, inherent and individual attribute in your Majesty, deserveth to be expressed, not only in the fame and admiration of the present time, nor in the history or tradition of the ages succeeding; but also in some solid work, fixed memorial, and immortal monument, bearing a character or signature, both

both of the power of a king, and the difference and perfection of such a king.

Therefore I did conclude with myself, that I could not make unto your Majesty a better oblation than, of some treatise tending to that end, whereof the sum will consist of these two parts: the former, concerning the excellency of learning and knowledge, and the excellency of the merit and true glory in the augmentation and propagation thereof: the latter, what the particular acts and works are, which have been embraced and undertaken for the advancement of learning; and again, what defects and undervalues I find in such particular acts, to the end, that though I cannot positively or affirmatively advise your Majesty, or propound unto you framed particulars; yet I may excite your princely cogitations to visit the excellent treasure of your own mind, and thence to extract particulars for this purpose, agreeable to your magnanimity and wisdom.

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ESSAYS, &c.

OF

FRANCIS, LORD BACON,

VISCOUNT ST. ALBAN.

ON THE DISCREDIT OF LEARNING.

De Augmentis Scientiarum. Lib. Prim.

TO clear the way, and command silence,
in order to have the testimonies concerning the dignity of learning better heard, without the interruption of tacit objections, I have determined in the first place, to deliver learning from the disgrace and discredit, which ignorance has cast upon it; ignorance, under several forms, appearing and discovering itself sometimes in the zeal of divines, sometimes in the arrogance of politicians,

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ticians, and sometimes in the errors of learned men themselves.

I hear the first say, “ That knowledge is
 “ of the number of those things, which are
 “ to be admitted with limitation and cau-
 “ tion.” “ That an over-great appetite of
 “ knowledge was the first sin, whereupon
 “ ensued the fall of man; and that even to
 “ this day it hath somewhat of the serpent
 “ in it; for when it enters, it makes a man
 “ swell.” *Scientia inflat.* “ That *Solomon*
 “ is of opinion there is no end in mak-
 “ ing books; and that much reading is
 “ weariness of the flesh.” And in an-
 other place. “ That in much wisdom
 “ there is much grief!” Also “ He that
 “ encreaseth knowledge, encreaseth anx-
 “ iety.” That *St. Paul* puts in a caveat,
 “ That we be not spoiled through vain
 “ philosophy.” Further, “ That ex-
 “ perience demonstrates, that the most
 “ learned men have been arch-heretics;
 “ and the most learned times inclined to
 “ Atheism.” Finally, “ That the con-
 “ templation of second causes derogates
 “ from the authority of the first.”

To

To discover then the falsity of this opinion and the weakness of its foundation, any man may see plainly they do not consider, that the knowledge, which occasioned the fall, was not that pure and primitive knowledge of nature, by the light of which man gave names to other creatures in Paradise, as they were brought before him, according to their properties; but that ambitious knowledge of good and evil, by which he affected to shake off God, and give law to himself. Neither is it any quantity of knowledge, how great soever, that can swell the mind, since nothing can fill the soul, much less expand it, but God, and the contemplation of him. And therefore *Solomon*, speaking of the two principal senses of inquisition, (seeing and hearing) saith, "That the eye is never "satisfied with seeing, nor the ear with "hearing." Eccles. 1. 8. And if there be no fulness, it follows, that the objects of sense are not adequate to their capacity.

IN like manner, knowledge itself, and the mind of man (to which the senses are emissaries) he defines in these words, which he subjoins to his calendar, or register of times,

concluding thus: " God hath made all things
 " beautiful, or decent, in the true return of
 " their seasons." *Ecclef.* 3. 11. Also " He
 " hath placed the world in man's heart,
 " yet cannot man find out the work which
 " God worketh from the beginning to the
 " end." By which words he plainly intimates,
 that God has framed the mind like a mirror,
 capable of the image of the universal world,
 and as desirous of receiving it, as the eye is
 of light; and delighted to behold not only
 the varieties and vicissitudes of times, but
 ambitious likewise to search, and explore
 the immoveable and inviolable laws and
 decrees of nature. And although he seems to
 insinuate, that the whole of that oeconomy
 of nature, which he calls the work which
 God works from the beginning to the end,
 is not possible to be found out by man; this
 does not derogate from the capacity of men,
 but should be cast upon the impediments of
 knowledge; such as the shortness of life;
 separation in mens studies; a depraved and
 unfaithful tradition of knowledge; and a
 number of other inconveniencies, to which
 the condition of man is subject; for that no
 part of the universe is improper for the dis-
 quisation

quisition of man, he shews clearly enough in another place; where he says," The spirit
" of man is as the lamp of God, where-
" with he searcheth the most hidden
" secrets."

IF then such be the capacity of the mind of man, it is manifest that there is no danger from the quantity of knowledge, how large soever, lest it should make it swell; but merely in the quality of knowledge, which though ever so small, if it be taken without its proper antidote, hath a kind of malignity in it, full of flatulent symptoms. This antidote, the mixture of which tempers knowledge, and renders it exceeding wholesome, is charity; which also the Apostle subjoins to the former clause, saying,
" Knowledge puffeth up, but charity build-
" eth up." Not unlike that which he delivers in another place," Though I spake with the
" tongues of men and of angels, and have
" not charity, I am become as a sounding
" brass, or a tinkling cymbal," 1 Cor. 13.
Not but it is an excellent thing to speak with the tongues of men and angels; yet if it be severed from charity, and not referred to the

public good of mankind, it will rather exhibit an empty glory, than any solid fruit.

As for *Solomon's* censure, touching the excess of writing and reading books, and the anxiety of spirit redounding from knowledge with that admonition of *St. Paul*, "That we be not seduced by vain philosophy," let those passages be rightly explained, and they clearly point out the true bounds and limits within which human knowledge is confined and circumscribed, yet so as she may be at liberty to comprehend and take in the universal nature of things. The limits are three: first, that we do not so place our felicity in knowledge, as to forget our mortality: second, that we do not so use our knowledge, as to be the occasion of anxiety, not tranquillity of mind: the third, that we do not think, by the contemplation of nature, to be able to reach the divine mysteries.

THE first, *Solomon* excellently explains in another place of the same book, *Eccles.* 2. 13. &c. "I saw well," saith he, "that wisdom recedeth as far from folly, as light from darkness. The wise man's
" eyes

“ eyes keep watch in his head, whereas the
 “ fool roveh about in darknes; but withal
 “ I learned that the same mortality involves
 “ them both.”

For the second, certain it is, that no anxiety or perturbation of mind, results from knowledge, but merely by accident; for all knowledge, and wonder, is in itself pleasant; but when conclusions are drawn from it, which being obliquely applied to our own particular views, beget either weak fears, or vast desires; then, and not till then, arises that vexation and trouble of mind of which we are speaking: for then knowledge is no longer a dry light, as *Heraclitus*, the obscure, would have it: *lumen siccum optima anima*; “ dry light is the best soul;” but becomes *lumen madidum, atque humoribus affectum maceratum*; “ Light steeped and infused in
 “ the humours of the affections.”

THE third rule requires a more accurate disquisition, and is not to be lightly passed over. For if any man thinks, by a view and enquiry into sensible and material things, to attain so much light, as will be sufficient

to discover the nature or will of God, that man indeed is spoiled through vain philosophy: for the contemplation of the creatures, with regard to themselves produces knowledge; but with regard to God, wonder only, which is a kind of imperfect knowledge. And therefore it was most aptly said by one of *Plato's* school; "That human senses resemble the sun, which reveals indeed the terrestrial globe, but seals up the celestial, and the stars." So the sense discovers natural things, but darkens and shuts up divine. And hence it is that some of the learned have fallen into heresy, while they laboured to fly up to the secrets of the Deity, upon the wings of the senses.

As to those who are of opinion that too much knowledge inclines the mind to atheism, and that the ignorance of second causes gives birth to our piety towards the first cause, I would willingly ask these persons *Job's* question, *Job* 13. 7. "Whether it be fit to lie for God, and for his sake to speak deceitfully, that we may gratify him?" For it is plain, that God worketh nothing in the ordinary course, of nature,
but

but by second causes; and if they would have it otherwise believed, it would be mere imposture, in favour to God; and nothing else but to offer to the author of truth, the unclean sacrifice of a lie.

BUT further, it is an assured truth, and warranted by experience, that a small, or superficial taste of philosophy, may perchance incline a man to atheism, but that a deeper research brings him back again to religion. For, in the entrance to philosophy, when the second causes, which are nearest to the senses, offer themselves to the mind of man, and its attention is fixed upon them, an oblivion of the first cause may possibly creep in: but if a man proceeds further, and views the dependance, continuation, and confederacy of causes, and the works of providence, then, according to the allegory of the poets, he will easily believe that the highest link of *Nature's* chain, is fastened to the foot of *Jupiter's* throne.

To conclude, let no man in pursuit of ill-applied moderation, imagine that we can go too far, or be too well-studied in the book of God's word, or in his works, in divinity,

nity, or philosophy; but rather let men awaken themselves, and vigorously pursue an endless proficiency in both; only let them beware, lest they apply knowledge to self-admiration, not to charity; to ostentation, not to use: And that they do not unskilfully confound those distinct doctrines, of theology and philosophy, together.

POLITICAL OBJECTIONS

AGAINST

L E A R N I N G.

NOW let us come to the disgrace where-
with the politicians asperse learning,
which is of this nature: “ That the Arts
“ soften mens minds, and render them
“ unapt for military glory. Then, in
“ matter of politics, that they spoil mens
“ dispositions, making them either too
“ curious in respect to reading, too pe-
“ remptory by the strictness of rules, or too

I

“ incom-

“ incompatible with the times, by reason
 “ of the dissimilitude of examples; but at
 “ least, that they divert and alienate mens
 “ minds from business and action, instilling
 “ into them a love of leisure and privacy:
 “ Next, that they bring into states a relaxa-
 “ tion of discipline, while every man is
 “ more ready to argue, than to obey.” Up-
 on which *Cato*, surnamed the *Censor*, one of
 the wisest men that ever lived, when the
 young men of *Rome*, flocked from all
 quarters about *Carneades* the philosopher,
 who was come Ambassador from *Rome*, ta-
 ken with the sweetness and majesty of his
 eloquence, gave counsel in full senate,
 “ That they should give him his dismiss-
 “ sion with all speed, lest he should infect
 “ and enchant the minds of the citizens,
 “ and insensibly bring in an alteration of
 “ the manners and customs of the state.”
 The same reason moved *Virgil* also, prefer-
 ring the honour of his country, before his
 own profession, to make a separation between
 the arts of policy, and the arts of literature;
 claiming those to the *Romans*, and leaving
 these

these to the *Grecians*, in those celebrated Verses, *Æn.* 6. v. 847. &c.

Excudent alii, &c.

- " Let others better mould the running mass
- " Of metal, and enform the breathing brass,
- " And soften into flesh a marble face :
- " Plead better at the bar ; describe the skies,
- " And when the stars descend, and when they rise.
- " But *Rome*, 'tis thine alone with awful sway,
- " To rule mankind, and make the world obey ;
- " Disposing peace and war thy own majestic way."

DRYDEN.

WE see likewise that *Anytas*, the accuser of *Socrates*, laid it as an article of accusation against him, that he did by the power and variety of his discourses and disputations debase in the minds of young men, the authority and reverence of the laws and customs of their country ; and that he did profess a dangerous art, with which, whoever was furnished, might make the worse cause the better, and suppress truth itself by the address and splendour of eloquence.

BUT these imputations, carry rather an effected gravity, than any sincerity of truth. For experience witnesses, that both persons

persons and times have flourished at once, in the glory of arms and education : as for men, we have instances in that noble pair of Emperors, *Alexander* the great, and *Julius Cæsar* the dictator; the one, *Aristotle's* scholar in philosophy, the other, *Cicero's* rival in eloquence. Or if any man should rather call for learned men, who have proved great generals, than generals that were great scholars, there is ready for him *Epaminondas* the *Theban*, or *Xenophon* the *Athenian*; the former of which was the first that paved the way to the overthrow of the *Persian* monarchy. And this union of arms and letters is yet more visible in times, than in persons, as an age is a greater object than a man. For the very same times with the *Egyptians*, *Assyrians*, *Persians*, *Grecians*, and *Romans*, that are most renowned for military virtue, were likewise most admired for learning too; so that the gravest authors and philosophers, and the most celebrated captains and governors, have lived in the same age. Nor indeed can it be otherwise, for as in man the vigour of body and mind grow to maturity almost together, except that the former is a little more early than the other; so in states,

the

the glory of arms and learning, the one whereof corresponds to the body, the other to the soul, are either coeval, or follow one another very close.

Now in matters of policy and government, that learning should rather be an impediment, than a help to it, is a thing very improbable: we all confess it an unadvised act, to commit a natural body, and the cure of health to empiric physicians, who boast of a few receipts, which seem to them universal remedies, in confidence of which they venture to attempt any thing, when yet they neither know the causes of diseases, the constitutions of patients, the danger of symptoms, nor the true method of cures. We see a like error in those, who for the dispatch of their causes and suits, make use of little lawyers, versed in practice, rather than in the law-books; who are easily imposed upon, if there fall out any thing new, or out of the common road of their experience: so it is a matter of great danger, whenever affairs is intrusted chiefly to empiric statesmen. On the contrary, there is scarce one instance brought of a disastrous govern-

government, where learned men have been seated at the helm. For though it has been ordinary with politicians to vilify learned men by the name of *Pedants*, yet history bears record in abundance of particulars, that the government of princes in minority, notwithstanding the great disadvantage of that kind of state, have nevertheless excelled the government of princes of mature age, even for the reason, which politicians traduce, of the administration of affairs being at that time in the hands of *Pedants*. Who does not know, that during those five years of *Nero*, so much magnified, the burden of affairs lay upon *Seneca*, a *Pedant*? So again, *Gordianus* the younger, owed the ten years applauded government to *Misfitheus*, a *Pedant*. Nor did *Alexander Severus* govern less happily in his ministry, in which space women took care of all things, but, with the advice of *Preceptors*.

Let us look into the government of the bishops of *Rome*; that of *Pius Quintus*, or *Sextus Quintus*, in our times, who were esteemed at their entrance but as poor, ignorant, and unexperienced friars; and we shall

shall find that the acts of such popes are generally more memorable, than of those who have ascended to the papacy from an education and breeding in affairs of state, and in the courts of princes. For although men that have spent most of their life in letters, are less quick in apprehending occasions, in points of convenience, and accommodating things for the present, which the *Italians* call *ragioni di stato*, “Reasons of state.” (the very name whereof *Pius Quintus* could not bear, being used to say, that they were the mere devices of wicked men, to oppress religion and the moral virtues) yet in this there is made ample recompense, that they are perfect and ready in the safe and plain way of religion, justice, honesty, and the moral virtues; and they that constantly keep in this path, will no more need those other remedies, than a sound body does physic. Moreover, the space of one man’s life cannot furnish precedents enough to direct the events of it, for as it sometimes happens, that the grandson, or great grandson, resembles the grand-father, or great grand-father more than the father, so it frequently happens that the occurrences of present times

fuit

suit better with antient examples, than with those of latter times. Lastly, the wit of one man is as much inferior to the extent and latitude of learning, as the income of a private man to a public treasury.

AND though it were granted, that those depravations, indispositions, and impediments, which are imputed to learning by politicians, are of validity, and have some truth in them; yet it must be remembered that learning in each of these is more medicinal than it is hurtful. For allowing, that learning by a secret influence renders the mind irresolute and perplexed, yet certainly it plainly teaches how to unwind the thoughts, how far to deliberate, and when at last to resolve; nay, it shews how things in the mean time may be protracted and suspended without prejudice.

LET it be granted, that learning makes mens minds too positive and stiff; yet it teaches, what things are in their nature demonstrative, and what conjectural; and has for its object, as well the use of distinctions and exceptions, as the stability of

rules and principles : again, that it misleads and wrests mens minds, either by the disproportion or dissimilitude of examples; that may be, but it unfolds, and lays open, as well the force of circumstances, as the errors of comparisons, and teaches all the cautions of application; so that in the whole, it rectifies mens minds more than it perverts them. And these remedies learning insinuates every where with great force and variety of examples. Let a man weigh well the errors of *Clement* the VIIth, so lively described by *Guicciardine*, that was a kind of domestic to him; or the waverings of *Cicero*, painted to the life by his own pencil, in his epistles to *Atticus*; and he will of all things shun inconstancy, and frequent shifting of resolutions. Let him look into the errors of *Phocion*, and he will dread obstinacy, and wilfulness. Let him read the fable of *Ixion*, and it will dispel excessive hopes; let him consider *Cato* the second, and he will never insist on that perfection in a state which human nature cannot attain.

Now for the opinion of those who think learning a friend to sloth, and that it over-
spreads

spreads the mind with a sweet slumber of repose; they will do a miracle if they can prove, that what accustoms the mind to a perpetual motion, is the patroness of sloth: whereas, on the contrary, it may be truly affirmed, that no kind of men love business for business-sake, but the learned. For other persons love business, for the profit, as hirelings the work for the wages: others for honour; for while they are in action, they live in the eyes of men, and refresh their reputation, which would otherwise decay: others for the sake of power, and the privileges of fortune, that they may be able to reward their friends, and be revenged on their enemies: others, that they may exercise some peculiar faculty they are fond of, and in that respect often congratulate and please themselves: others, lastly, to obtain different ends so that as it is said of bravados, their valour is in the eyes of the spectators; and such mens diligence and activity seem to aim at this, either that others may applaud them, or that they may be delighted inwardly with selfconceit and their own designs. Only learned men love employment, as actions

agreeable to nature, and no less healthful to the mind, than exercise is to the body, having an eye to the thing only, not the profit: so that of all men, they are the most indefatigable, provided it is such business that can fill and entertain the mind according to its dignity.

AND if any are found sometimes active in reading, but idle in action, they have not this from learning, but from some weakness and softness of body, or spirit; such as *Seneca* touches: "some," says he "are so much for shade and obscurity, that whatever is in the light, they take to be in a storm." It may happen, that men from a consciousness of such a temper devote themselves to learning; but learning itself implants and breeds no such temper.

BUT if any man, notwithstanding, peremptorily maintains, that learning swallows up too much time, which might otherwise be better employed; I answer, that no man is so straitened and oppressed with business, but he has his intermissions and vacations till the returns and tides of business flow in again,

again, unless he is either very dull, and of no dispatch; or ambitious (little to his credit and reputation) in reaching after more than he can accomplish.

It remains then to be enquired, with what, and in what manner it may be convenient to fill up those spare hours; whether with studies or pleasures, with sensuality, or contemplation; as was answered by *Demosthenes* to *Æschines*, a man given to pleasure, who when he told him by way of reproach; "That his orations smelt of the lamp;" "In troth," says he, "there is great difference between the things that I and you do by lamp-light:" wherefore there is no fear lest learning should expel business; nay, rather it rescues and defends the mind from idleness and pleasure, which otherwise by degrees are apt to steal in, to the prejudice of both business as well as learning.

As to the objection that letters undermine the reverence of laws and government, it is mere calumny, and has not the probable appearance of an accusation. For to say,

that a blind obedience should be a stronger obligation than a rational duty, is the same as to affirm, that a blind man with a guide treads surer than he that has the use of light and eyes. Since without all controversy, the arts soften the manners, make them tender, obsequious, pliable, and ductile to the commands of power; but ignorance makes them contumacious, refractory, and mutinous: and this appears clearly by history, considering that the most unlearned, rude, and barbarous times, have been most subject to tumults, seditions, and changes.

WITH respect to the judgment of *Cato* the *Censor*, I shall only say, that he was justly punished for his blasphemy against learning; for when he was past threescore years of age, he was taken with an extreme desire to go to school again, to learn the *Greek* Tongue, that he might understand the *Greek* authors; which demonstrates, that his former censure of the *Grecian* learning, was rather an affected gravity, than the inward sense of his own opinion.

THOUGH *Virgil* in the above cited verses took a fancy to insult the world, in asserting to the
Romans

Romans a superiority in the arts of empire; resigning to *Greece* those of genius and taste, as popular and servile; yet it is manifest, that the *Romans* never ascended to the pinnacle of empire, till the time they had risen to the height of arts. For in the time of the two first *Cæsars*, men of the greatest perfection in the art of government, there lived contemporaries; the best poet, *Virgilius Maro*; the best historian, *Titus Livius*; the best antiquary, *Marcus Varro*; and the best, or second best orator, *Marcus Cicero*; the greatest men each in their faculties, in the memory of man.

LASTLY, for the accusation of *Socrates*, I shall only say, the time must be remembered, when it was prosecuted; namely, under the thirty tyrants, of all mortals the most bloody, wicked, and unworthy of government: which revolution of state and times was no sooner over, but the same *Socrates*, whom they had made a criminal, was now ranked among the Heroes; his memory illustrated and crowned with all honours divine and human; and those discourses of his, before esteemed the

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corruption of morals, were celebrated by all posterity for most sovereign medicines of mind and manners. Let this serve for answer to politicians who in their supercilious severity, or in their counterfeit gravity, have presumed to throw their reproaches and affronts upon learning.

OF THE POVERTY OF THE LEARNED, &c.

NOW we are come to the third sort of discredit, that results to learning from learned men themselves, which adheres more closely than the rest, and derives its origin either from their fortune, their manners, or the nature of their studies. The first of which is out of their power; the second accidental, and not to the purpose; so that the third only seems properly to fall under inquiry. Yet because the debate in hand is not so much concerning the true weight of things, as of popular opinion, it will not be amiss

amiss to insinuate somewhat also of the two others.

THE derogations therefore, and diminutions which learning suffers from the fortune of learned men, are taken either from their poverty of living, their obscure course of life, or from the meanness of the employments wherein they are conversant.

As to poverty which happens to learned men, who commonly begin with little, and do not grow rich so fast as other men, who mind nothing but interest, it were advisable to leave the theme in praise of it, to the *Mendicant Friars* to adorn; to whom *Machiavel* attributed much, when he said; "That the kingdom of the priests had long since been at an end, if reverence towards the poverty of friars and monks, had not compensated for the luxury and excess of prelates." So may a man say, that the felicity and magnificence of princes and great persons had possibly long ago sunk into barbarism, if they had not been obliged to those poor learned men, for the civility and honour of life. But without any such hunting after encomiums, it is worthy observation
what

what a sacred and venerable thing poverty itself was esteemed, for some ages, among the *Romans*, which nevertheless was a state without paradoxes. For thus saith *Titus Livius* in his introduction; “ Either my
 “ affection to the work I have undertaken
 “ deceives me, or never was there Common-
 “ wealth either more mighty than the
 “ *Roman*, more holy and devout, more rich-
 “ ly furnished with good precedents, or
 “ which avarice and excess so late invaded;
 “ and wherein poverty and parsimony were
 “ so greatly and so long honoured. In short,
 “ the more their indigence, the less they
 “ desired.”

AFTER the *Roman* state had degenerated, we read, that when *Cæsar* the dictator professed a restoration of the ruined state, one of his confidants told him, that the most compendious way to his design would be to take away the esteem of riches. “ But,” says he, “ these, and all other evils will cease,
 “ together with the reputation of money, if
 “ neither offices, nor any other things that
 “ commonly appear so desirable, be exposed
 “ to sale.”

To

To conclude, as it was truly said, that blushing was the colour of virtue, though sometimes it comes from vice, so you may truly say, that poverty is the fortune of virtue, though sometimes it proceeds from luxury and mismanagement. Surely this is *Solomon's* judgment; "He that hasteth to be rich, shall not be innocent;" and his precept, "Buy the truth, and sell it not; also knowledge and prudence:" judging it right and good, that riches should be employed to get learning, not learning applied to hoard riches.

To what purpose should we speak of the obscurity of life, which is objected to learned men? It is a theme so trite to extol leisure and retirement, not accompanied with sloth and luxury, before a civil and active life, for security, liberty, sweetness, dignity, or at least freedom from indignities, that no man handles this subject, but handles it well. I shall only add, that learned men lying close in states, and not living in the eyes of men, are like the images of *Cassius* and *Brutus*, of which, not being carried as many others were at the funeral of *Julia*,
Tacitus

Tacitus, saith, *Eo ipso præfulgebant, quod non visebantur*; they out-shone the rest, for this very reason, because they did not appear.

WITH respect to the meanness of employment ascribed to learned men, the chief argument to prove it is, that the education of children and youth is allotted to them; the disesteem of which age, because it is that of least authority, is cast upon the masters themselves. But how unjust this disparagement is, if it be weighed, not according to popular opinion but sound judgment; we may form an idea from hence, that men are more careful what they put into a new vessel, than into a vessel seasoned; and are more curious what mould they lay about a young plant, than one in maturity; from whence it is evident that the principal care is about the first formation of things. Observe the following sentence of the Rabbies; "Your young men shall see visions, and your old men shall dream dreams." From this text they gather, that youth is the worthier age, as revelation is more clear by visions, than by dreams. And this is well worth remarking, that however pedagogues have
run

run the derision of theatres, as the apes of tyranny, and that the modern times have been negligent and asleep in the choice of school-masters and tutors; yet it has been an antient complaint, delivered down even from the best and wisest ages, that states are too diligent as to their laws, and too negligent in point of education. Which most noted part of antient discipline, has in some measure been revived in the colleges of the *Jesuits*, whose industry and acuteness, when I consider, as well in the culture of learning, as in the formation of manners, that of *Agefilans* touching *Pharnabazus*, comes into my mind, *Talis cum sis, utinam noster esses*; “since thou art so excellent, I wish thou wert one of us.” And thus much for the discredit drawn from the fortunes, and condition of learned men.

As to the manners of learned men, that is a thing rather personal, than belonging to their studies; and no doubt there are found amongst them, as in all orders and professions of life, bad as well as good; but yet it is nevertheless true what is asserted; *Abire studia in Mores*, that studies have an influence
upon

upon the manners ; and that letters, unless they meet with very depraved dispositions, reform nature intirely, and change it for the better.

BUT upon an attentive, and impartial review, I can't find any disgrace that adheres to learning, from the manners of learned men, unless it be imputed to them as a fault, which *Demosthenes*, *Cicero*, *Cato* the second, *Seneca*, and many more are accused of, that because the times they read of are commonly better than those they live in; and the duties taught better than the duties practised, they contend beyond what is expedient, to reduce the corruption of manners to moral rectitude and the received opinions of the sage; or impose the laws of antient severity upon dissolute times, the bad policy of which they have experienced in their own walks. For *Solon* when he was asked, whether he had given his citizens the best laws; "The best," says he, "of such as they were disposed to receive." So *Plato*, finding that the manners of his country-men were too corrupt for him to bear, abstained from all public offices, saying; "That a man's country is
" to

“ to be dealt with as his parents; that is,
 “ by persuasion, not violence; by humbly
 “ entreating, not contesting.” And *Cæsar*’s
 counsellor puts in the same plea, saying,
Non ad vetera Instituta revocans, quæ jam pri-
dem corruptis Moribus ludibrio sunt: “ Not
 “ reducing things to the antient customs,
 “ which have been long since laughed at from
 “ the degeneracy of our manners.” *Cicero*
 to *Atticus*: “ *Cato*,” says he, “ has most
 “ excellent notions, but he sometimes hurts
 “ the state; for he speaks as in the com-
 “ mon-wealth of *Plato*, and not as in the
 “ dregs of *Romulus*.” The same *Cicero*, by
 a soft interpretation, excuses the rigid say-
 ings of the philosophers: “ Those very
 “ preceptors and teachers, says he, seem to
 “ have stretched out the line and limits of
 “ duties beyond what nature required; that
 “ when we had strained our soul to reach
 “ the highest point of perfection, we might
 “ however rest and make a stand, where it
 “ is meet.” And yet he himself might have
 said, *Monitis sum minor ipse meis*; “ I am not
 “ able to follow my own advice:” for he
 stumbled at the same stone, though not in so
 extreme a degree.

ANOTHER

ANOTHER fault which is perhaps deservedly objected to learned men, is this, that they have sacrificed their own fortunes, or safeties to the honour and interest of their country; for so said *Demosthenes* to his *Athenians*; "My counsels, says he, if ye
 "note it well, are not such whereby I
 "may grow great amongst you, and yourselves become little amongst the *Grecians*;
 "but of that nature as are sometimes not
 "safe for me to give, but always good for
 "you to follow." So *Seneca*, after he had consecrated that *Quinquennium Neronis* (five years of *Nero*) to the eternal glory of learned preceptors, held on his course of free and bold counsel to his master, now grown extremely corrupt by all manner of vice, to his own great peril, and at last ruin. Neither can it be otherwise, for learning seasons mens minds with a true sense of their own frailty, and instability of fortune, the dignity of their soul, and of their own duty; which things when they think of, they can by no means persuade themselves, that any advancement of their own fortunes can be set down as a true and worthy end of their being. Wherefore they live, as persons ready to give up their account to God, and to their masters under God,
 whether

whether kings or states, in this form of words, *Ecce tibi lucrifeci*; "Behold I have gained for thee;" and not in that, *Ecce mihi lucrifeci*, "Behold I have gained for myself." But the herd of politicians, that have not their thoughts trained up and established in the doctrine of duties, and the contemplation of universal good, refer all things to themselves, carrying themselves as if they were the center of the world, and that the concurrence of all interests ought to center in them, and their fortunes; never troubling their heads what becomes of the ship of the republick, though tost by tempests, provided they can but retreat and save themselves and their own fortune.

ON the contrary, men who feel the weight of duty, and understand the limits of self-love, make good their places and stations, though with peril. And if they chance to stand in seditions and alterations of government, it is not to be attributed to any arts, or versatile temporising dispositions in them, but to that reverence, which probity extorts even from enemies. But as to constancy of faith, and tender sense and religious observ-

ation of duty, which erudition does certainly plant in the minds of men, however fortune may sometimes tax them, or politicians, from corrupt principles, condemn them, yet they will certainly carry a public commendation from all men; so that in this point, there needs no long defence.

ANOTHER fault is common with learned men, and which may sooner be excused than denied, that they do not easily apply and accommodate themselves to persons, with whom they negotiate, or live: which defect arises from two causes: the first is the greatness of their soul, upon the account of which they can hardly stoop to the observance of any one man. It is a speech for a lover, not for a wise man, *Satis magnum alteri alteri Theatrum sumus*, "We are a theatre of pleasure and entertainment, large enough, the one to the other." Nevertheless I shall grant that he who cannot contract the sight of the mind, like that of the eye, as well as dilate it, is destitute of a notable faculty for the management of business. But the second cause is the probity and simplicity of their manners; which argues choice and judgment,

ment, not defect and inability in them. For the true and just bounds of observance towards any person, extends no further, than so to understand his temper, as to be able to converse with him without offence; and to assist him, with counsel, and in the mean time to take care of ourselves in all points: but to speculate into another man's affections, to the end we may work him, wind him, and turn him about at pleasure; is not the part of an ingenuous nature, but of a crafty man; which, as in friendship, is want of integrity, so towards princes or superiors, is want of duty. In the *Levant*, it is accounted a heinous offence to gaze and fix their eyes upon their princes; which in the outward ceremony indeed is barbarous, but in the moral, good: for it becomes not subjects, by curious observation, to pierce and penetrate into the hearts of Kings, which the scripture declares to be *Inscrutable*.

THERE is yet another fault (with which I will conclude this part) often imputed to learned men; namely, that in small and outward matters, as countenance, gesture, gait, ordinary discourse, &c. they fail many times

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in observing decency ; from whence ignorant men make a judgment from those minute and trivial miscarriages, that their errors must be great in the management of more important matters. But this consequence generally deceives them ; therefore let them know, that *Themistocles* has given their answer, who being asked to touch a lute, answered arrogantly, but very appositely, to the purpose in hand ; “ That he could not
“ fiddle indeed, but he knew well enough,
“ by what means a small town might be-
“ come a great state.”

AND there are, no doubt, many singularly skilful in the arts of policy, who notwithstanding are strangely at a loss in common life and ordinary matters of no weight. Such scoffers also are to be referred to *Plato's* eulogy of his master *Socrates*, whom he compared to the gally-pots of apothecaries on the out-sides of which were drawn apes, owls, and grotesque figures ; but contained within, precious liquors, and noble medicines ; acknowledging, that to vulgar capacity, and popular report, he was not without some superficial levities, and even deformities ;
but

but was inwardly replenished with most excellent faculties and virtues. So much for the manners of learned men.

In the mean time, I think it necessary to notice, that I intend nothing less than to patronize certain abject and base practices of professors of learning, whereby they have discredited both themselves and letters: such as were, in the latter age of the *Roman* state, certain trencher-philosophers, in the families of wealthy persons, whom you may not improperly call *solemn Parasites*: one of them *Lucian* makes a humourous description of; whom a noble matron would have to carry her lap-dog in the coach with her; which he doing officiously, but awkwardly, the page sneeringly said, “ I am afraid our philosopher, of a stoic, will turn cynic.”

BUT above all the rest, nothing has so much prejudiced the dignity of letters, as the gross and scandalous flattery, to which many, and those not unlearned, have prostituted their wits and pens, transforming

Hecuba into *Helena*, and *Faustina* into *Lucretia*, as *Du-Bartas* says.

NEITHER, do I much commend that received custom of dedicating books to patrons; for books (such as are worthy of that name) ought to have no patrons but truth and reason. The custom of the antients was better, who were used to dedicate their writings to none but friends and equals; or to title their treatises with the names of such friends: if they dedicated to kings, or great persons, it was then only done when the argument of the book was fit for such a person. But these may deserve rather reprehension than defence.

NOR do I say this, as if I condemned learned men for applying themselves sometimes to men of fortune and power: for to one that asked in mockery, "How it came
" to pass that philosophers were the fol-
" lowers of rich men, and not rich men of
" philosophers;" the answer that *Diogenes* made was right and sharp; "That it was,
" because philosophers knew well what
" they had need of, but rich men did not."

Like

Like this, is that of *Aristippus*, when having a petition to *Dionysius*, and no ear given to him, he threw himself at his feet in the manner of an adorer, upon which, at last, he gave him the hearing, and granted his petition: but a little after, some person, tender of the honour and credit of philosophy, reproved *Aristippus* for offering the profession of philosophy so great an indignity, as to fall at a tyrant's feet for such an inconsiderable matter: to whom he replied, "That it was not his fault, but *Dionysius's*, "that had his ears in his feet." Neither was it accounted weakness, but discretion in him, that suffered himself to be worsted in a certain disputation with *Adrianus Cæsar*; excusing the fact; "That it was but reason "to yield to one that commanded thirty "legions." Learned men, therefore, must not be condemned, when upon occasion, they abate somewhat of their gravity, whether in point of necessity, or convenience; for though it may seem mean and servile, at first sight; yet in a judgment truly made, they will be found to submit to the occasion, and not to the person.

FROM THE STUDIES OF THE LEARNED.

LET us now proceed to those errors and vanities, which intervene in the studies of the learned, and mix with them; wherein my design is not to justify the errors, but by a censure and separation of them, to sift out that which is sound and solid, and to deliver them from calumny. For we see it is the custom, especially of envious men, on account of what is corrupt and depraved, to traduce also that which is untainted, and has retained its state; as the heathens in the primitive church used to blemish the christians with the faults and corruptions of the heretics. Nevertheless, I purpose not to make any exact animadversion upon the errors and impediments arising from learning, which are more secret and remote from vulgar capacity; but only to speak to such as fall under common and popular observation, or at least do not recede far from it.

I find there are chiefly three vanities in learning, which have principally given a handle

handle to the traducing of it; for we esteem those things vain which are either false or frivolous, in which there is neither truth nor use: those persons also we esteem vain and light who are either credulous in things false, or curious in those of little use. And curiosity is either in matter or words; that is, when either labour is spent in vain matters, or too much pains taken about delicacy of words; wherefore it seems agreeable as well to right reason, as to approved experience, to set down three distempers of learning: the first is fantastic learning; the second, contentious learning; the third, ornamental and delicate learning. Or thus: vain imaginations, vain altercations, vain affectations; and with the last I shall begin.

DELICATE LEARNING.

THE distemper seated in superfluity and profuseness of speech, which in different periods of antiquity was held in some esteem, about *Luther's* time prevailed wonderfully. The principal reason was, the heat and efficacy

cacy of preaching, to soothe and entice the people, which about that time flourished greatly; and this required a popular kind of expression. Another reason was, the hatred and contempt which grew up in those very times towards the School-men, who used a very different stile and form of expression, taking an excessive liberty to coin new and harsh terms, without regard to the ornament and elegancies of speech, to avoid circumlocution, and deliver their sense and conceptions with acuteness; after which greater care began to be taken of words than matter; most affecting rather neatness of phrase, roundness of period, the musical cadence of the clauses, and the sparkling of tropes and figures, than the weight of matter, the soundness of argument, the life of invention, or exactness of judgment. Then first flourished the luxuriant and watery vein of *Oforius*, the Portugal Bishop. Then did *Sturmius* spend such infinite and anxious pains upon *Cicero* the Orator, and *Hermogenes* the Rhetorician. Thus did our *Car* and *Ascham*, in their lectures and writings, extol *Cicero* and *Demosthenes* even to the skies, and invite young men to this polite and flourish.

flourishing kind of learning. So did *Erasmus* take occasion to bring in that scoffing eccho, *Decem Annos, consumpsi in legendo Cicerone*: "I have spent ten years in reading "Cicero:" to which the eccho answered, "One, afs." Then the learning of the School-men began to be utterly despised, as rough and barbarous. In short, the chief inclination and bent of those times was rather to copiousness than weight.

HERE then we see the first corruption of learning, when men study words, and not matter; of which though I have brought late examples only, yet such false taste prevailed more or less in times past, and will again hereafter. Now, it is not possible, but this very circumstance should tend much to the discredit of learning, even with the ignorant vulgar, when they see learned mens writings, like the first letter of a patent, which, though it be drawn out with various turns and flourishes of the pen, yet is but a single letter. And to me, indeed, *Pigmalion's* frenzy seems a very apposite representation and emblem of this vanity; for what else are words but the images of things:

so

so that unless they be animated with the spirit of reason, to fall in love with them, is like falling in love with a picture.

It is a thing not hastily to be condemned for a man to illustrate and smoothe the obscurities and roughness of philosophy, with the splendor of words; of which we have great examples in *Xenophon*, *Cicero*, *Seneca*, *Plutarch*, and even *Plato* himself; for the utility of it is great: and although this may be some hindrance to a severe inquiry of truth, and a deep study of philosophy, because it is too early satisfactory to the mind, and quenches the thirst and ardor of further search; yet, if a man applies his learning to civil uses, as conference, counsel, persuasion, argument, and the like, he will find all that he desires, prepared and set out to his hand, in such authors. However the excess of this is so justly contemptible, that as *Hercules*, when he saw in a temple the image of *Adonis*, *Venus's* minion, said in indignation, *Nil sacri es*: “Thou art
“nothing sacred:” so all Herculean champions in learning, that is, the more laborious

rious and steady enquirers into truth, will naturally despise such delicacies and fopperies, as having nothing divine in them.

THERE is something more found in another kind of stile, though not altogether exempt from vanity, which near about the same time succeeded this copiousness and superfluity of speech. It consists altogether in this: that the words be pointed, the sentences concise, the contexture of the speech, rather returning into itself, than spread and dilated; so it comes to pass by this artifice, that every passage seems more ingenious than indeed it is. Such a stile as this we find more extensively in *Seneca*, more moderately in *Tacitus* and *Plinius Secundus*; and not long since it began to be pleasing to the ears of our own time. But this very stile is wont to find acceptance with ordinary capacities, so as to be a kind of dignity and ornament to learning: nevertheless, by the more exact judgment it is deservedly despised, and may be set down as a distemper of learning, since it is nothing else but a hunting after words, and the finery and quaint-

quaintness of them. Thus much of the first distemper of learning.

CONTENTIOUS LEARNING.

Now follows the distemper in the matter itself, which we placed second, and designed by the name of contentious subtilty: and this is rather worse than that just treated of; for as substantial matter excels every ornament of words, so, on the contrary, vanity of matter is more odious than vanity of words. Wherein that reprehension of *St. Paul* may refer, as well to the following times as to his own age; and seems to respect not only divinity, but sciences also: “Avoid profane novelties of words, and “opposition of sciences falsely so called.” *Tim. i. v. 20.* For in these words he alleges two marks and badges of suspected science? the first is the novelty and strangeness of terms; the other, the rigour and strictness of positions, which must needs occasion opposition, and then altercations and questions.

CER-

CERTAINLY many natural substances, which are solid and entire, so long as they are in a state of perfection, do frequently corrupt and pass into worms; after the same manner, sound and solid knowledge oftentimes putrifies and dissolves into minute subtilties, like worms which seem to have a kind of motion and quickness in them, but are insipid and of no use,

THIS kind of unsound and self-corrupting learning prevailed chiefly among the School-men, who having abundance of leisure, sharp and strong wits, but small variety of reading (their understandings being confined to the writings of a few authors, especially *Aristotle*, their dictator, as their persons were to the cells of monasteries) and for the most part ignorant of the history, as well of nature, as time, did, out of no great quantity of matter, but infinite agitation of wit and spirit, spin out unto us those most laborious webs of learning which are extant in their books. For the mind of man, if it works upon matter, by contemplating the nature of things, and the works of God, is limited in its operations by the subject;

subject; but if it turns inward, and works upon itself, like the spider weaving his web, then is it endless, and brings forth indeed cobwebs of learning, admirable for fineness of thread and work, but, as to use, frivolous and of no substance.

THIS unprofitable subtilty, or curiosity, is two-fold; and is seen either in the subject itself, such as is a fruitless speculation, or controversy, of which kind there are no small number, both in divinity and philosophy, or in the manner and method of treating it; which among the Schoolmen was generally this: upon every position or assertion they formed objections, then solutions of those objections; which, for the most part, were only distinctions: whereas, indeed, the strength of all sciences, like the old man's faggot, consists not in every stick afunder, but in all together united in the band; for the harmony of a science, that is, when each part mutually supports the other, is, and ought to be, the true concise way of confuting all the smaller sort of objections; but, on the other side, if you take out every axiom, one by one severally, you
may

may easily disprove them, and bend and break them at pleasure. So that what was said of *Seneca*, "He breaks the weight of matter by the little niceties of words," may truly be said of the School-men; "They break the solidity of sciences by the little niceties of questions." Would it not be better in a spacious hall to set up one great light, or to hang up a branch furnished with divers lights, whereby all may be seen at once, than to go up and down with a small watch candle into every corner? And such is their method, who do not so much endeavour to illustrate truth by clear arguments, authorities, comparisons, and examples, as labour to take out every minute scruple, to answer captious cavils, and to solve doubts; by this means breeding question out of question, even as in the comparison above of the light, when you carry it into one place, you forsake and darken all the rest: so that the fable of *Scylla* expresses to the life this kind of philosophy, whose face and breast resembled a beautiful virgin, but below they say she was,

Candida succinctam latrantibus inguina monstribus.

VOL. II.

E

"A beau-

“ A beauteous maid above, but magic arts,
 “ With barking dogs deform’d her nether parts.”

DRYDEN.

So you will find certain general positions amongst the School-men, that are handsomely said, and not invented amiss; but when you descend to their distinctions and decisions, instead of a fruitful womb, for the benefit of human life, they end in monstrous and barking questions.

THEREFORE it is no wonder if this kind of learning falls under even the contempt of the vulgar, who are generally used to despise truth on account of controversies raised about it, and think they are all out of the way who never meet: and when they see the altercations of learned men one with another, about matters of no moment, they easily catch up that saying of *Dionysius of Syracuse*, *Verba ista sunt senum otiosorum*: “ This is nothing but the tattle of old men
 “ and women that have nothing else to
 “ do.” Notwithstanding it is most certain,
 that

that if the School-men, to their unquenchable thirst of truth, and continual working of their wit, had joined variety and multiplicity of reading with contemplation, they would have doubtless proved distinguishing lights, to the wonderful advancement of all arts and sciences. And so much for the second disease of learning.

FANTASTIC LEARNING.

For the third disease, which relates to falshood and untruth, this is, of all others, the most pernicious, as it destroys the very nature and soul of knowledge, which is nothing else but the image of truth. For the truth of being, and that of knowing, are all one; nor do they differ more from one another, than the direct beam, and the beam reflected. This vice, therefore, branches itself into two sorts; imposture, and credulity: this is deceived, that deceives; which although they appear to be of a different nature, the one seeming to proceed from craft, the other from simplicity, yet,

for the most part, they concur. For as the verse has it,

Percontatorem fugito, nam garrulus idem est.

Intimating, that an inquisitive person is a pratter also: so, for the same reason, he that is apt to believe, is apt to deceive. As we see it also in fame and rumours, that he who easily believes them, will as easily augment and add to them; which *Tacitus* wisely hints in these words: “ They invent, and “ believe at once:” so great an affinity is there between a propensity to deceive, and a facility to believe.

THIS facility of believing, and admitting all things, though weakly authorized or warranted, is of two kinds, according to the nature of the subject-matter; for we either believe story, or matter of fact, as the lawyers speak, or else matter of opinion and position. As to the former kind, we see how much this error has discredited, and derogated from some ecclesiastical histories; which have been too easy in registering and transcribing miracles wrought by martyrs, hermits, anchorites, and other holy men,
and

and by their relics, sepulchres, chapels, and images.

So in natural history we may see many things rashly and with little choice or judgment, received and registered, as appears by the writings of *Pliny*, *Cardanus*, *Albertus*, and divers of the *Arabians*, which are every where fraught with forged and fabulous stories; and those not only uncertain and untried, but notoriously false, and manifestly convicted, to the great discredit of natural philosophy with grave and sober men. In which the wisdom and integrity of *Aristotle* shines forth; who having wrote a diligent and exquisite history of living creatures, has not mingled it much with feigned or fabulous matter; but rather than do that, he has cast all the prodigies which he thought worthy recording, into one commentary; excellently discerning, that matter of manifest truth, which, like a solid experimental basis, might serve as a foundation for philosophy and sciences to be built upon, was not unadvisedly to be mingled with matter of doubtful credit; and yet, that things rare and strange, which to most people seem incredible,

credible, are not wholly to be suppressed, or to be denied to the records of posterity.

But that other credulity, which is yielded not to history or reports, but to arts and opinions, is likewise of two sorts: either when we give too much credit to the arts themselves, or to the authors in any art.

THE arts themselves, which have had more intelligence and confederacy with imagination and belief, than with reason and demonstration, are chiefly three; astrology, natural magic, and alchymy; the ends of which are noble: for astrology professes to discover that correspondence which is between the superior and the inferior globe; natural magic pretends to reduce natural philosophy, from variety of speculations, to the magnitude of works: alchymy undertakes to separate and extract the heterogeneous parts of things, which are hid and incorporate in natural bodies, and to refine bodies themselves that are stained and soiled; to set at liberty such as are bound and imprisoned, and to bring to perfection such as are unripe. But the methods which are
presumed

presumed to lead to these ends, both in the theory and practice of those arts, are full of error and trifling; yet, surely, to alchymy this right is due, that it may truly be compared to the husbandman in *Æsop*, who, being about to depart this life, told his sons, "That he had left them a great quantity of gold buried in his vineyard, but did not remember the particular place:" who when they had with spades diligently turned up all the vineyard, gold indeed they found none; however, by stirring and digging the mould about the roots of their vines, they had a very great vintage the year following: so the strenuous pains of chymists, about making gold, have opened the way to a great number of noble inventions and experiments, singularly adapted, as well to the disclosing of nature, as to the uses of human life.

Now, as for the credulity which has invested certain authors of sciences with a kind of dictatorial power to give law, not senatorial to give advice; this has been of infinite hurt to sciences, as the principal cause which has depressed and kept them so low, that they have been without any remarkable

growth or advancement. In mechanical arts, the first projectors have been short in their inventions, and time has supplied and perfected the rest; but in sciences, the first authors have gone farthest, and time has impaired and corrupted them. So we see artillery, sailing, printing, were in their beginnings imperfect, in a manner without form and badly managed; but, in progress of time, accommodated and refined. But, on the contrary, the philosophy and sciences of *Aristotle*, *Plato*, *Democritus*, *Hippocrates*, *Euclid*, *Archimedes*, were of most vigour under those very authors; and in process of time degenerated, and lost much of their lustre; for this reason, that in arts mechanical, the wits of many have contributed and met in one, but, in liberal arts and sciences, the wits of many have yielded and submitted to one, whom yet his followers many times have rather depraved than illustrated: for as water will not ascend higher than the spring-head, from whence it flows, so knowledge derived from *Aristotle*, and exempted from liberty of examination, will never rise higher than the knowledge of *Aristotle*; and, therefore, though I do not dislike the rule,

oportet

oportet discipulum credere, "A learner ought
 "to believe," yet it must be coupled with
 this: *oportet jam doctum iudicio suo uti*: "He
 "that is well informed, ought to make use
 "of his own judgment." For disciples
 owe their masters only a temporary belief,
 and a suspension of their judgment, till they
 have thoroughly learned the arts; and not
 an absolute resignation of their liberty, and
 a perpetual bondage of their understanding.
 Therefore, to conclude this point, I will
 say no more than this: let great authors
 have such honour, as that we do not dero-
 gate from time, which is the author of au-
 thors, and parent of truth.

PREJUDICES OF THE LEARNED.

WE have at length laid open three dif-
 tempers or diseases of learning; besides
 which there are some other, rather peccant
 humours than confirmed diseases; which,
 nevertheless, are not so secret, but that they
 fall under a popular observation and censure;
 and, therefore, are by no means to be passed
 over.

THE

THE first of these is an affectation of two extremes, antiquity and novelty: wherein the daughters of time take after the nature and malice of the father; for as time devours his children, so do these one another, while antiquity envies new improvements, and novelty cannot be content to add things recent, unless it utterly rejects the old: surely the advice of the Prophet is the true direction in this case: “Stand ye upon the old paths, and see where is the good and the right way, and walk therein.” Jerem. vi. 16. Antiquity deserves so much reverence, that men should make a stop, and look about them on every side, to discover which is the best way; but when the discovery is well taken, they should not rest there, but advance cheerfully; for in truth, antiquity of time is the world’s youth. Certainly ours are the ancient times, the world being now grown old; and not those which are computed, *ordine retrogado*, reckoning backward from our own age.

ANOTHER error, springing from the former, is a suspicion and diffidence, which thinks that it is not possible to find out any thing
now

now, which the world could have been so long without; as if the same objection might be made to time, with which *Lucian* attacks *Jupiter*, and the rest of the heathen Gods; for he wonders they should beget so many children in old time, and none in his; and asks merrily, “Whether they were superannuated, or restrained by the Papien law made against old mens marriages.” So men seem to be apprehensive, that time is become *effete*, and past bearing children: whereas, on the other hand, we may here easily discover the levity and inconstancy of men, who, till a thing is done, think it impossible; but, at soon as it is done, wonder it had not been done long before. Thus *Alexander's* expedition into *Asia* was judged, at first, as a vast and exceeding difficult enterprize; which, nevertheless, after it succeeded, *Livy* made so slight of, as to say of *Alexander*, “He did but bravely venture to despise idle opinions:” and the same happened to *Columbus*, in the western navigation: but, in intellectual matters, this is much more common, as may be seen in most of the propositions in *Euclid*, which, before they are demonstrated, seem strange, and not easily to be

be assented to; but, after demonstration, the mind embraces them by a kind of recognizance, as the lawyers term it, as if it had understood and known them before.

ANOTHER error, of affinity with the former, is a fancy of those who think that of all sects and ancient opinions, after they had been examined and sifted, the best were established, and the rest suppressed; therefore they conceive, if a man should begin his search and examination a-new, he must of course light upon some opinions which had been rejected, and, after rejection, lost and obliterated; as if the multitude, or even wise men, to gratify the multitude, did not oftener approve that which is popular, than that which is more solid. For time is of the nature of a river, which carries down to us things light and buoyant, but sinks and drowns that which is solid and weighty.

ANOTHER error, different from the rest, is, an over-early and peremptory reduction of knowledge into systems, which, whenever it happens, sciences receive little or no augmentation: even as young men, when they

they are knit and perfectly shaped, scarce grow any more: so knowledge, as long as it is dispersed into aphorisms and observations, may grow and shoot up; but, when once it is circumscribed by systems, it may by chance be polished and illustrated, or accommodated to human use; but it will increase no more in bulk and substance.

ANOTHER error is, that after the distribution of particular arts and sciences into their several classes, most men have abandoned universality of knowledge, *philosophia prima*, which is a deadly enemy to the progression of sciences; for prospects are made from turrets, or very high places; and it is impossible for a man to explore the more remote and deeper parts of any science, if he stand but upon the flat and level of it, and ascend not the watch-tower of a superior science.

ANOTHER error flows from too great a reverence and adoration of the mind and understanding of man; by which means men have withdrawn themselves from the contemplation of nature, and the observations
of

of experience, bewildered in their own speculations and fancies; but of these noble speculators, and, if I may so speak, intellectualists, who are, notwithstanding, commonly taken for the most sublime and divine philosophers, *Heraclitus* has spoken thus: "Men," says he, "seek truth in their own little worlds, but not in the great world." For did they not disdain the alphabet of nature, and the primer of the divine works, they might, perhaps, by steps and degrees, after the knowledge of simple letters, and then syllables, come at last to read perfectly the text and volume of the creatures itself. But they, on the contrary, by continual meditation, and working of their wit, urge and invoke their own spirits to divine, and give out fanatical predictions, by which they are deservedly, though pleasingly deluded.

ANOTHER error that has some connection with the latter is, that men often season and infect their meditations and doctrines with certain opinions and fancies of their own, which they hold most in admiration; or with some sciences, to which they are most
addicted

addicted and devoted; tincturing all other things with their favourite studies, though a paint very illusive and deceiving. So *Plato* intermingled theology in his philosophy; *Aristotle*, logic; the second school of *Plato*, *Proclus* and the rest, mathematics. The chymists forged a new philosophy out of a few experiments, the fire, and furnace; and *Gilbertus*, our countryman, has drawn a new philosophy out of the load-stone. So *Cicero*, when reciting the several opinions concerning the nature of the soul, at last met with a musician, who held the soul to be harmony, and said pleasantly, "This man was not for going out of his own profession." But of these sort of errors, *Aristotle* aptly and wisely says, "They that consider but few things are apt to pronounce, and be dogmatical."

ANOTHER error is, an impatience of doubting, and a blind haste to assent, without mature suspension of judgment; for the two ways of contemplation are not unlike the two ways of action often mentioned by the ancients: the one, plain and smooth in the beginning, but in the end impassable; the

the other, rough and craggy in the entrance, but, when you have gone on a little, fair and even; so, in contemplation, if a man begins with certainties, he shall end in doubts; but, if he begins with doubts, and has the patience to bear them, he shall soon end in certainties.

A LIKE error discovers itself in the manner of delivering knowledge, which, for the most part, is imperious and magisterial, not ingenuous and liberal; so contrived as to command assent, rather than submit to examination. I will not deny, but that in compendious treatises, designed for practice, that form of writing is to be retained; but, in just and complete treatises of science, both extremes, in my judgment, are to be avoided, as well that of *Velleius*, the Epicurean, *Nil tam metuentis, quam ne dubitare de re aliqua videretur*, “Who fears nothing so much, as
 “left he should seem to doubt about any
 “thing,” as that of *Socrates*, and the Academy, who leave all things in doubt and uncertainty. Men should rather affect candour and sincerity, and propound things with more or less asseveration, according as they
 are

are more weakly or fully proved, by the weight of argument and reason.

OTHER errors there are in the scope that men propound to themselves, and to which they direct their endeavours and labours; for, as the more diligent leaders, and noted professors of learning, ought chiefly to keep in view the making some considerable addition to the art they profess; these men, on the other side, content themselves to be seconds only; courting the name either of a subtle interpreter, an able antagonist, or of a methodical abridger: from whence the revenues and tributes of sciences come to be augmented, but not the patrimony and ground of knowledge itself.

BUT the greatest error of all the rest consists in deviating from the ultimate end of knowledge. For men desire and seek after knowledge, some from a natural and restless curiosity; others for entertainment and delight; others for reputation; others for the sake of contention and victory in dispute; most for lucre and livelihood; very few to employ the gift of reason given by God for

the benefit and use of mankind: just as if they sought in learning a couch, on which they might repose a troubled and restless spirit; or a terrace for a wandering and variable mind to walk up and down upon at liberty, with a fair prospect; or some high and eminent tower, for a proud, ambitious mind to raise itself on; a citadel and fort for contention and battle, or a ship for trade and merchandise, rather than a rich armory, and store-house, for the glory of the Creator of all things, and the relief of human life. This is that which would indeed dignify and exalt learning and the arts, if contemplation and action were more nearly joined and united than they have hitherto been: which combination would be like the conjunction of the two highest planets, when *Saturn*, the planet of quiet and contemplation, conspires with *Jupiter*, the planet of society and action. However, when I speak of practice and action, I do not in the least mean professorial and lucrative learning; for I am not ignorant how much that diverts and interrupts the progression and advancement of real knowledge; like, indeed, the

Golden

Golden Apple thrown before *Atalanta*, which, while she stoops to take up, the race in the mean time is hindered.

Declinas cursus aurumque, volubilis tollit.

NOR again is it my meaning, as was said of *Socrates*, to call down philosophy from heaven to converse upon earth only; that natural philosophy should be laid aside, to the end that moral and political philosophy only might be in vogue: but as heaven and earth conspire together for the support and delight of the life of man, so indeed should this be the end of both philosophies, that vain speculations, and whatever is empty and barren, being rejected, all that is solid and fruitful may be preserved; and knowledge not considered a courtesan for pleasure, or a handmaid to profit, but as a spouse for generation and honest comfort.

AND now, having explained, by a kind of dissection, those peccant humours (the principal of them at least) which have not only been an impediment to the proficience

the benefit and use of mankind: just as if they sought in learning a couch, on which they might repose a troubled and restless spirit; or a terrace for a wandering and variable mind to walk up and down upon at liberty, with a fair prospect; or some high and eminent tower, for a proud, ambitious mind to raise itself on; a citadel and fort for contention and battle, or a ship for trade and merchandise, rather than a rich armory, and store-house, for the glory of the Creator of all things, and the relief of human life. This is that which would indeed dignify and exalt learning and the arts, if contemplation and action were more nearly joined and united than they have hitherto been: which combination would be like the conjunction of the two highest planets, when *Saturn*, the planet of quiet and contemplation, conspires with *Jupiter*, the planet of society and action. However, when I speak of practice and action, I do not in the least mean professorial and lucrative learning; for I am not ignorant how much that diverts and interrupts the progression and advancement of real knowledge; like, indeed, the

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AND now, having explained, by a kind of dissection, those peccant humours (the principal of them at least) which have not only been an impediment to the proficience

of learning, but have also given occasion to the traducing of it; if I have done it to the quick, it must be remembered, “ Faithful
“ are the wounds of a friend; but the kisses
“ of an enemy are deceitful.” Prov. xxvii.
6. However, this, at least, I seem to have gained, to deserve belief in the following encomium, since I have proceeded so freely in the preceding censure: and yet I have no purpose to write a panegyric on learning, or sing a hymn to the Muses, though perhaps it is long since their rites were duly celebrated; but my intent is, without varnish or amplification, to take the just weight of knowledge, to balance it with other things, and to search out the true value thereof from testimonies, both divine and human.

ON THE DIGNITY OF LEARNING.

FIRST let us seek the dignity of knowledge in the archetype, that is, in the attributes and acts of God, as far as they are revealed to man, and may be searched into with sobriety; in which the name of learning is improper, since all learning is knowledge acquired; and no knowledge in God is acquired, but original; therefore we must look out for some other name, that of wisdom, as the holy scriptures term it.

IN the works of creation, we see a double emanation of divine virtue; the one referring to power, the other to wisdom: the former is chiefly seen in creating the mass of matter, the latter, in disposing the beauty of the form. This being laid down, it is to be observed, that for any thing which appears in the history of the creation to the contrary, the confused mass of heaven and earth was made in a moment; yet, the disposition and

digesting of the same was the work of six days: so remarkable a difference did it please God to put between the works of power, and the works of wisdom. As to the creation of matter, it is not recorded that God said, "Let there be heaven and earth," as was said of the works following; but simply and actually, "God made heaven and earth:" so that the matter seems to be as a manufacture, but the introduction of form carries the style of a law or decree.

LET us proceed from God to Angels, whose nature, in order of dignity, is next to God. We see in the order of Angels, so far as credit is to be given to that celestial hierarchy, set forth under the name of *Dionysius* the Areopagite, that the Seraphim, that is, the angels of love, have the first place; the second, the Cherubim, angels of illumination; and that the third and following places are given to thrones, principalities, and the rest of the angels of power and ministry: so that from this very order and distribution it appears, that the angels of knowledge and illumination are placed before the angels of office and dominion.

To

To descend from spirits and intellectual natures, to sensible and material forms, we read, that the first of created forms was light; which, in natural and corporeal things, has a relation and correspondence to things spiritual and incorporeal.

So in the distribution of days we see the day wherein God rested, and contemplated his own works, was blessed above all the days in which the fabric of the universe was created and disposed.

AFTER the creation was finished, we read that man was placed in Paradise, to work there: which work could be no other than what relates to contemplation; that is, the end of it could not refer to necessity, but to delight and exercise, without vexation or trouble; for there being then no possible reluctance of the creature, no "sweat of the brow," man's employment must of consequence have been matter of pleasure and contemplation, not of labour or work. The first acts which man performed in Paradise consisted of the two summary parts of knowledge, the view of creatures, and the impos-

fiction of names. As for the knowledge which introduced the fall, it was not the natural knowledge of creatures, but the moral knowledge of good and evil, wherein the supposition was, that God's commandments or prohibitions were not the origin of good and evil, but that they had other sources which man aspired to know, to make a total defection from God, and to depend wholly upon himself.

LET us pass to the things that happened immediately after the fall. We see (as the sacred scriptures have infinite mysteries, without ever violating the historical and literal truth) an image of the two estates, the contemplative and active, delineated in the persons of *Abel* and *Cain*, and in their professions and primitive ways of life. The one was a shepherd, who, by reason of his leisure, his quiet, and free view of heaven, is a type of the contemplative life: the other, a husbandman, that is, a man fatigued with labour, and his countenance fixed down upon the earth: where we may see that the favour and election of God went to the shepherd, and not to the tiller of the ground.

So before the flood, the holy records, among the very few occurrences registered of that age, have delivered down to posterity the inventors of music, and works in metal.

IN the next age after the flood, the great judgment of God upon the pride of man was the confusion of tongues, whereby the free commerce of learning, and intercourse of letters, was chiefly cut off.

LET us descend to *Moses*, the law-giver, and God's first notary, whom the scriptures adorn with this eulogy, " That he was seen " in all the learning of the Egyptians;" which nation was reckoned one of the most antient schools of the world: for so *Plato* brings in the Egyptian priest saying to *Solon*; " You Grecians are ever children, having " no knowledge of antiquity, nor antiquity " of knowledge." Take a view of the ceremonial law of *Moses*, and you shall find, besides the prefiguration of Christ, the distinction of the people of God from the Gentiles, the exercise and impression of obedience, and other holy uses of the same law, that some of the most learned Rabbies have tra-

travailed, profitably and profoundly to discover a physical and moral sense in many of the ceremonies and ordinances: as in the law of the leprosy, where it is said, “ If the white-
 “ nefs have overspread the flesh, the patient
 “ may pass abroad for clean; but if there be
 “ any whole flesh remaining, he is to be
 “ shut up for unclean.” From this law one of them collects a principle of nature,
 “ That putrefaction is more contagious before
 “ maturity than after.” Another notes a position of moral philosophy, “ That men
 “ abandoned to vice do not so much corrupt
 “ manners, as those that are half good and
 “ half evil:” so in this, and in many other places in that law, there is to be found, besides the theological sense, a great mixture of philosophy.

So likewise if a man turn over with diligence that excellent book of Job, he will find it full of the mysteries of natural philosophy. As for example, cosmography, and the roundness of the world: “ He stretcheth out the
 “ north over the empty place, and hangeth
 “ the earth upon nothing.” Job xxvi. 7.
 Wherein the pensileness of the earth, the
 pole

pole of the north, and the finiteness or convexity of heaven, are manifestly touched. So in matters of astronomy: "By his spirit
" he hath garnished the heavens; his hand
" hath formed the crooked serpent." Ibid. 13. And in another place, "Canst thou bind
" the sweet influences of Pleiades? or loose
" the bands of Orion?" xxxviii. 31. Where the immoveable configuration of the fixed stars, ever standing at equal distance one from the other, is with great elegance described. So in another place, "Which
" maketh Arcturus, Orion, and Pleiades,
" and the secrets of the south." ix. 9. Where he points at the depression of the Southern pole, calling it the secrets of the south, because the southern stars are not seen upon our hemisphere. Likewise in matter of generation: "Hast thou not
" poured me out like milk, and condensed
" me like curds?" x. 10. In matters of minerals: "Surely there is a vein for silver,
" and a place wherein gold is fined; iron is
" digged up out of compacted dust, and
" brass extracted from stone dissolved in the
" furnace." See chap. xxviii. 1. &c.

IN

IN like manner also, in the person of King *Solomon*, we see the gift of wisdom, both in his own petition, and in the divine grant, preferred before all earthly and temporal felicity: by virtue of which grant, *Solomon*, being singularly furnished, wrote not only those excellent parables concerning divine and moral philosophy, but also compiled a natural history of all vegetables, “ from “ the cedar upon the mountain, to the moss “ upon the wall,” (which is but the rudiment of a plant, between putrefaction and an herb;) and of all things that breathe or move. Nay, the same King *Solomon*, though he excelled in wealth, in magnificence of buildings, in shipping, in service and attendance, in fame and renown, and other things relating to glory; yet he reaps or assumes to himself nothing at all, out of that train of glories, besides that of enquiring into, and finding out the truth: for so he says expressly: “ It is the glory of God to “ conceal a thing; but the honour of kings “ is to search out a matter.” Prov. xxv. 2. As if, according to the innocent and sweet play of children, the divine Majesty took delight to hide his works, that he might have

have them found out; and as if kings could not obtain a greater honour than to be assigned the province of discovering them; especially considering the great command they have of wits and means, whereby nothing needeth to be hidden from them.

NOR was the dispensation of God otherwise, after our Saviour was come into the world: for he shewed his power, in putting ignorance to flight, by his conference with the doctors and priests in the temple, before he shewed it, in subduing nature, by his great and numerous miracles: and the coming of the holy Spirit was chiefly figured and expressed in the similitude and gift of tongues, which are but the vehicles of knowledge.

So in the choice of those instruments which God made use of for the plantation of the faith, at first he called forth persons wholly unlearned and ignorant, otherwise than by inspiration of the Holy Ghost; to the end he might more evidently declare his own immediate working and divine power to be above human wisdom. Nevertheless,
his

his counsel in this respect was no sooner fulfilled, but in the next succession of time he sent his divine truth into the world. Accordingly the pen of *St. Paul*, the only learned man of the apostles, was chiefly employed by God, in the scriptures of the New Testament.

WE know that several of the ancient Bishops and fathers were excellently read in all the learning of the heathens. Infomuch, that the edict of *Julian*, which forbade Christians to be admitted into schools and academies, was esteemed a more pernicious engine for the demolishing of the Christian faith, than the sanguinary persecutions of the preceding emperors. Neither was the emulation and invidiousness of *Gregory* the first, Bishop of *Rome*, (otherwise an excellent man) who zealously endeavoured to obliterate the memory of heathen authors and antiquities, taken in good part, even among pious men. Nay, it was the Christian church alone, which, among the inundations of the *Scythians* from the north, and of the *Saracens* from the east, preserved in her sacred bosom the precious relics of heathen learning, which

was now upon the point of being utterly extinguished.

THERE are two principal offices and services, besides ornament and illustration, which philosophy and human learning perform to faith and religion. The one, that they are effectual incitements to the exaltation and celebration of the glory of God; (for as the Psalms, and other scriptures, often invite us to contemplate and magnify the great and wonderful works of God; so, if we should rest only in the exterior part of them, as they first offer themselves to our senses, we should do the same injury to the majesty of God, as if we should judge of the wealth and store of a most noted jeweller, by what is exposed to view in the out-part of the shop towards the street :) the other, that they minister a singular help and preservative against unbelief and error; for our Saviour saith, “Ye err, not knowing the scriptures, nor the power of God.” Where he lays before us two books to study, to prevent our falling into error: first, the volume of the scriptures, which reveal the will of God; then, the volume of the creatures that

that exprefs his power: the latter of which is a key to the former, opening not only our intellects, to conceive the genuine fenfe of the fcriptures, which is to be drawn out by the general rules of reafon, and laws of fpeech; but, befides that, unfolding our faith alfo, to enter into a ferious meditation of the omnipotence of God, the characters whereof are chiefly engraven upon his works. Thus much for divine testimonies and judgments, concerning the true dignity and value of learning.

OF HUMAN PROOFS AND ARGUMENTS.

AS for human proofs and arguments, fo large a field opens, that it is convenient to ufe choice rather than abundance.

FIRST, therefore, the higheft degree of honour among the heathens was, to obtain divine veneration and worfhip; which to Chriftians is blafphemy; but we fpeak now
fepa-

separately concerning human judgments: therefore among the heathens, that which the *Greeks* call *apotheosis*, and the *Latins*, *relatio inter Deos*, “canonizing,” was the highest honour that man could possibly attribute to man; especially when it was given, not by any degree or act of state, as to the *Roman* Emperors, but freely and frankly from the judgment and inward belief of men: of which exalted honour there were two degrees, honours heroic, and divine; in the distribution of which, antiquity observed this order.

FOUNDERS of states, legislators, fathers of their country, and other persons of great merit in civil affairs, were distinguished by the title of Heroes; such as *Theseus*, *Minos*, *Romulus*, &c. On the other side, the inventors and authors of new arts, and such as endowed human life with new conveniences and accessions, were ever consecrated among the greater Gods themselves; such as *Ceres*, *Bacchus*, *Mercury*, *Apollo*, and others; which, doubtless, was done justly, and upon sound judgment. For the merits of the former are commonly confined within the

circle of one age, or nation; and are not unlike seasonable and favourable showers, which, though they be profitable and desirable, yet serve only for that season wherein they fall, and for that latitude of ground which they water: but the benefits of the latter, like the blessings of the sun, and of the heavenly bodies, are for time perpetual, for place, universal. Again: those are usually accompanied with strife and perturbation; but these have the true character of the divine presence, and come, in a gentle gale, without tumult or noise.

NOR indeed is the merit of learning in civil affairs, and in repressing the inconveniences which one man brings upon another, much inferior to that other, in relieving human necessities, which arise from nature herself: and this kind of merit was excellently shadowed under that feigned relation, concerning *Orpheus's* theatre, where all beasts and birds assembled, and, forgetful of their natural appetites of prey, of game, of flight; stood sociably and lovingly together, taken with the melodious sweetness of his harp; the sound whereof no sooner ceased, or was drowned

drowned by some louder noise, but every beast returned to his own nature. In which fable the natures and manners of men are elegantly described, who are tossed with fundry untamed desires of gain, of lust, of revenge; yet as long as they give ear to the precepts and persuasions of religion, of laws, of instructors, eloquently and sweetly warbling, in books, in sermons, and harangues; so long is peace and society maintained: but if those are silent, or seditions and tumults disturb them with their clamour, all things dissolve, and relapse into anarchy and confusion.

BUT this appears more manifestly, when kings themselves, or persons of great authority under them, or other governors of states, are endued with learning: for however partial to his own profession he may be thought who said, "Then would states be happy, "when either philosophers were kings, or "kings philosophers;" yet so much is verified by experience, that, under learned princes and governors of state, there have been ever the happiest times. For though kings may have their errors and imperfec-

tions; being liable to passions, and depraved customs, like other men; yet, if they have the illumination of learning, certain anticipated notions of religion, policy, and morality, hold them back, and restrain them from all ruinous and incurable excess and error; whispering in their ear, even when counsellors and servants are silent. Senators and counsellors, that are accomplished with learning, proceed upon more solid principles than those that are only men of experience; the former seeing dangers afar off, and warding them in time; whereas these are wise only near at hand, seeing nothing but what is imminent; and then at last trusting to the agility of their wit to disentangle and rescue themselves, in the very instant of danger.

THE happiest times were under learned princes, which best appear in that age, from the death of *Domitian*, the emperor, until the reign of *Commodus*, comprehending a succession of six princes, who, learned themselves, or at least were singular patrons of learning; and of all ages, if we regard temporal happiness, the most flourishing that *Rome*, then the epitome of the world, ever saw; a matter re-

vealed

vealed and prefigured to *Domitian* in a dream, the night before he was slain; for he thought he saw a golden head grown out of the nape of his neck: which divination was indeed fulfilled in those golden times that succeeded: of which princes we will make some commemoration; wherein although the matter is vulgar, and may be thought fitter for a declamation, than agreeable to a treatise infolded as this; yet, because it is pertinent to the point in hand, *neque semper arcum tendit Apollo*, and to name them only were too naked and cursory, I will not omit it altogether.

THE first was *Nerva*; the excellent temper of whose government, is by a glance of *Cornelius Tacitus*, touched to the life, “ afterwards “ *Nerva* united two things before incompatible, empire and liberty ;” and in proof of his learning he was a disciple of *Apollonius*, the famous *Pythagorean*: the last act of his short reign left to memory was, a missive to his adopted son *Trajan*, proceeding from some inward discontent at the ingratitude of the times, comprehended in a verse of *Homer*,

“ Revenge my tears, O Phæbus, with thy shafts.”

G 3

Trajan

Trajan, who succeeded, was not learned indeed in himself; but if we hearken to the speech of our Saviour that saith, “ He that
 “ receiveth a prophet, in the name of a
 “ prophet, shall have a prophet’s reward,” he deserves to be placed amongst the most learned princes; for he was an admirer of learning, a benefactor to learned men, a founder of libraries; and in whose court, though a warlike prince, preceptors and professors are recorded to have been in the highest request. On the other side, how much *Trajan*’s virtue and government was admired and renowned, surely no testimony of grave and faithful history doth more lively set forth, than that legendary tale of *Gregorius Magnus*, Bishop of *Rome*, who was noted for the extreme envy he bore towards all heathen excellency; and yet he is reported, out of the love and esteem of *Trajan*’s moral virtues, to have made unto God passionate and fervent prayers, for the delivery of his soul out of hell; and to have obtained it with a caveat that he should make no more petitions. In this prince’s time, also, the persecutions against the Christians received intermission, upon the certificate of *Plinius Secundus*, a
 man

man of excellent learning, and advanced by *Trajan*.

ADRIAN, his fucceffor, was the moft curious man that lived, and the moft univerfal enquirer; infomuch, it was noted for an error in his mind, that he defired to comprehend all things, and not to referve himfelf for things more worthy; falling into the like humour that was long before noted in *Philip of Macedon*, who, when he wifhed to overrule and convince an excellent mufician in an argument touching mufic, was answered by him again, “ God forbid, fir,” faith he, “ that your fortune fhould be fo bad as to “ know thofe things better than me.” It pleased God likewise to ufe the curiofity of this emperor, as an inducement to the peace of his church in thofe days; for having Chrift in veneration, not as a God or Saviour, but as a wonder or novelty; and having his picture in his gallery, matched with *Apollonius*, with whom, in his vain imagination, he thought he had fome conformity; yet it ferved to allay the bitter hatred of thofe times againft the Chriftian name; fo that the church had peace during his time. And for

his civil government, although he did not attain to that of *Trajan's*, in glory of arms, or perfection of justice; yet, in deserving the good will of the subject, he did exceed him; for *Trajan* erected many famous monuments and buildings, insomuch that *Constantine* the Great, in emulation, was wont to call him *Parietaria*, "Wall-flower," because his name was upon so many walls: but his buildings and works were more of glory and triumph, than use and necessity. But *Adrian* spent his whole reign, which was peaceable, in a survey of the *Roman* empire; giving orders, wherever he went, for re-edifying of cities, towns, and decayed forts; for cutting of rivers and streams; for making bridges and passes; for improving the police of cities and commonalties with new ordinances and constitutions, and granting new franchises and incorporations: so that his whole reign was a perfect restoration of all the decays of former times,

ANTONINUS PIUS, who succeeded him, was a learned prince, and had the patient and subtle wit of a school-man; insomuch as in common speech, which leaves no virtue un-
taxed,

taxed, he was called *Cumini Sētor*, “ a dissector
 “ of a cumin seed :” such patience he had,
 and settled spirit, to enter into the least and
 most precise differences of causes ; a fruit, no
 doubt, of the exceeding tranquillity and sere-
 nity of his mind ; which (being no ways charg-
 ed or incumbered either with fear, remorse,
 or scruple, but having been noted for a man
 of the purest goodness, without all affecta-
 tion, that has reigned) made his understand-
 ing continually present and collected: he like-
 wise approached a degree nearer unto Christi-
 anity, and became, as *Agrippa* said unto St.
Paul, “ half a Christian ;” holding their
 religion and law in good opinion ; and not
 only ceasing persecution, but giving way to
 the advancement of Christians.

THERE succeeded him the first *divi fratres*,
 the two adoptive brethren, *Lucius Commodus*
Verus, son to *Elius Verus*, who delighted
 much in the softer kind of learning, and was
 wont to call the poet *Martial* his *Virgil*, and
Marcus Aurelius Antoninus, who long surviv-
 ed and obscured his colleague, was named
 the Philosopher ; and as he excelled all the
 rest in learning, so he excelled them likewise
 in

in perfection of all royal virtues; so that *Julian* the emperor, in his book intitled, “*Cæsares*,” which was a kind of satire, to deride all his predecessors, feigned that they were all invited to a banquet of the Gods; and *Silenus*, the Jester, sat at the lower end of the table, and bestowed a scoff upon every one as they came in; but when *Marcus Philosophus* came in, *Silenus* was troubled and out of countenance, having nothing to object, except his patience towards the humours of his wife. And the virtue of this prince continuing with that of his predecessor, made the name of *Antoninus* so sacred in the world, that though it was extremely dishonoured in *Commodus*, *Caracalla* and *Hellogabalus*, who all bore that name, yet when *Alexander Severus* refused the name, because he was a stranger to the family, the Senate with one acclamation said, *Quomodo Augustus sic et Antoninus*. In such renown and veneration was the name of these two princes in those days, that they would have had it as a perpetual addition in all the emperor’s titles. In this emperor’s time, also, the church, for the most part, was in peace: so that in this series of six princes, we see the
blessed

bleſſed effects of learning in ſovereignty,
 painted forth in the great table of the world.

BUT for a tablet or picture of ſmaller volume, in my judgment the moſt excellent is that of Queen *Elizabeth*; a princeſs that, had *Plutarch* been alive to write lives-by parallels, would have troubled him, I think, to find out for her a parallel among women. This lady was endued with learning ſingular in her ſex, and grace even among maſculine princes; whether we ſpeak of learned languages, or of ſcience, modern or ancient, divinity or humanity: and to the very laſt year of her life ſhe was accuſtomed to appoint ſet hours for reading, as regularly as any young ſtudent in a Univerſity. As for her government, I affirm, that this part of the iſland never had forty-five years of better times; and yet not through the calmneſs of the ſeaſon, but through the wiſdom of her government; for if there is conſidered on one ſide, the truth of religion eſtabliſhed; the conſtant peace and ſecurity; the good adminiſtration of juſtice; the temperate uſe of the prerogative neither ſlackened, nor too much ſtrained;

strained the flourishing state of learning; suiting with so excellent a patroness; the convenient estate of wealth and means, both of crown and subject; the habit of obedience, and the moderation of discontents; and when it is considered on the other side, the differences of religion; the troubles of neighbouring states; the ambition of *Spain*, and opposition of *Rome*; and that she was without alliances; these things, I say, considered, as I could not have chosen an instance so recent and so proper, so, I suppose, I could not have chosen one more remarkable or eminent to the purpose now in hand; which is concerning the conjunction of learning in the prince, with the felicity of the people.

THE INFLUENCE OF LEARNING

I N

MILITARY AFFAIRS.

LEARNING has not only an influence upon civil affairs, and the arts of peace, but it exercises its power and efficacy also in martial virtue; as appears manifestly in the examples of *Alexander* the Great, and *Cæsar* the Dictator; whose military virtues and achievements in war, it would be needless to note or recite, since they were the wonders of the world: but on their affection and zeal to learning, as also their peculiar perfection in the same, it will not be impertinent to enlarge.

ALEXANDER was bred and taught under *Aristotle*, who dedicated divers of his philosophical books to him. He was never without *Calisthenes*, and several other great scholars, who followed his camp, and were his perpetual associates in all his marches and
expe-

expeditions: and in what esteem he held learning, is plainly demonstrated by many particulars; as the envy which he thought *Achilles's* fortune worthy of, in having so good a recorder of his acts and praises as *Homer*. His judgment touching the precious cabinet of *Darius*, found amongst the rest of the spoils; of which, when a question was moved, "What thing was most worthy to be kept in it?" One said one thing; and another, another; he gave sentence for *Homer's* works. His chiding letter to *Aristotle*, after he had published his books of nature, wherein he expostulates with him for publishing the mysteries of philosophy; and sends him word: "That he had rather excel all men in learning and knowledge, than in power and empire." There are other particulars also to this purpose: but as to himself, how excellently he had improved his mind with learning appears, or rather shines, in all his sayings and answers, which are full of learning; wherein, though the remains are few, you may find deeply impressed the footsteps of all sciences.

THOUGH

THOUGH it may appear needless to recite things that every man knows, yet, since the argument I handle leads me to it, I am glad that men will perceive I am as willing to flatter an *Alexander*, a *Cæsar*, or an *Antoninus*, that lived many hundred years since, as any that are now living; for it is displaying the glory of learning in sovereigns that I propose, and not a humour of declaiming in any man's praise.

As to morals, let the apothegm of *Alexander*, touching *Diogenes*, be observed first; and see if it tends not to the settling of one of the greatest questions in moral philosophy: "Whether he that enjoys outward things, or despises them, is the happier man?" For when he saw *Diogenes* contented with so little, turning to those that stood about him, and mocked at his condition, "Were I not," says he, "*Alexander*, I could wish to be *Diogenes*." But *Seneca*, in this comparison, preferred *Diogenes*, when he said, "There was more that *Diogenes* would have refused, than *Alexander* could have given."

IN

IN natural knowledge, let that speech be observed which was usual with him, "That he felt his mortality chiefly in two things, "sleep and lust:" which speech, in truth, is drawn from the depth of natural philosophy, and more likely to have come out of the mouth of an *Aristotle*, or a *Democritus*, than an *Alexander*; seeing as well the indigence, as redundance of nature, represented by those two acts, are indications of death.

As to poetry, let this speech be observed, when upon the bleeding of his wounds, he called one of his flatterers, that was wont to ascribe to him divine honour; "Look," says he, "this is the blood of a man, not such liquor as *Homer* said ran from *Venus's* hand, when it was wounded by *Diomedes*:" with this saying making merry both with the poets, his flatterers, and himself.

IN logic, take his reprehension of dialectic subtilties, as to the repelling and retorting of arguments, in the touch he gave *Cassander*, who was confuting the informers against his father *Antipater*: when *Alexander* happened to say, "Do you think these men would
" have

" have taken so long a journey, if they had
 " not just cause for complaint?" *Cassander*
 answered, " Nay, this was the very thing
 " that gave them encouragement, being in
 " hopes that their calumny at such a dis-
 " tance could not be disproved;" " See,
 says the king, " the quirks of *Aristotle*,
 " to turn a thing both *pro* and *con*."

Nevertheless, this very art, which he re-
 prehended in another, he knew well how to
 use himself, when occasion required, to serve
 his own turn; for it happened that *Callisthe-
 nes*, whom *Alexander* inwardly hated, for
 being against his new canonization, being a
 very eloquent man, was desired at a ban-
 quet, by the company at the table, to chuse
 some subject, for entertainment sake, to
 discourse upon *extempore*, he consented; and
 pitching upon the praises of the *Macedonian*
 nation, harangued with great applause:
 whereupon *Alexander*, being displeased, said,
 " Upon a good subject it is easy for any
 " body to be eloquent: but turn," says he,
 " your style, and let us hear what you can
 " say against us." *Callisthenes* undertook it,
 and performed it with such virulence, that
Alexander interrupted him, and said, " Ma-

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“lice also, as well as a good cause, infuses
“eloquence.”

FOR rhetoric, to which tropes and ornaments belong—behold a most elegant use of a metaphor, with which he galled *Antipater*, an imperious, tyrannical governor; when one of *Antipater*’s friends was praising him to *Alexander* for his great moderation, in not degenerating, as other lieutenants did, into the *Persian* luxury, the use of purple, and throwing off the ancient *Macedonian* habit: “True,” says *Alexander*, “but *Antipater* is all over purple within.” That other metaphor was also fine: when *Parmenio* came to him in the plains of *Arbela*, and shewed him the vast army of his enemies, which lying under their view by night, represented, by the infinite number of fires, another starry firmament, and thereupon advised him to attack them by night; “I will not,” says *Alexander*, “steal a victory.”

IN matters of policy, mark that most significant and wise distinction, which all posterity has embraced, that he made between two of his singular friends, *Hephestion* and *Craterus*,

Craterus, when he said, "That the one
 "loved *Alexander*, and the other loved the
 "king;" making an important distinction
 between even the most faithful servants of
 princes, "That some bear a true affection
 "to the persons of their masters, others to
 "their crown and government."

LET us consider, likewise, how notably he
 taxed an error, common with the counsellors
 of princes, who generally suggest counsel ac-
 cording to the model of their own mind and
 fortune, not that of their masters; for when
Darius made great offers to *Alexander*; "I,"
 says *Parmenio*, "would accept them, if I
 "was *Alexander*:" to which *Alexander* re-
 plied, "And so would I, if I were *Par-*
 "*menio*."

LASTLY: examine that quick and acute
 reply to his friends, when they asked him,
 "What he reserved for himself, upon his
 "giving so many and such large gifts to
 "others?" "Hope," says he: as one who
 well knew, that, when all accounts are cast
 up right, hope is the true portion, and, as
 it were, inheritance of those that aspire to

great things. This was *Julius Cæsar's* portion, when upon going into *Gaul* he had exhausted all his estate by profuse largesses. This was likewise the portion of *Henry Duke of Guise*, that most noble prince, though too ambitious; of whom it was usually said, "That he was the greatest usurer in all France; because all his wealth was in notes, and he had turned his whole patrimony into obligation."

To conclude, therefore, as certain critics are used to say hyperbolically, "That if all sciences were lost, they might be found in *Virgil*;" so it may be truly said, there are the prints and footsteps of learning in those few speeches which are reported of this prince: the admiration of whom, when I consider him, not as *Alexander* the Great, but as *Aristotle's* scholar, has perhaps carried me too far.

As for *Julius Cæsar*, the excellency of his learning need not be conjectured, either from his education, his acquaintance, or his answers; for this appears eminently in his writings and books, some of which are extant,

tant, others are unfortunately lost. We have to this day that famous history of his own wars, which he named and entitled "Commentaries" only; in which all succeeding ages have admired the solid weight of matter and lively images, as well of actions as persons, joined with the greatest purity of language, and perspicuity of narration that ever was: that it was not the effect of a natural gift, but of learning and precept, is well witnessed by his work, intitled "De Analogia:" being a grammatical philosophy, wherein he labours to make this same *vox ad placitum*, to become *vox ad licitum*; and to reduce custom of speech to correctness of judgment, and assigned to words their genuine meaning.

By the book which he entitled "Anticato," it easily appears, that he aspired as much to victory of genius, as victory of war and arms; undertaking therein a conflict with the pen, against the greatest champion of that age, *Cicero* the Orator.

As a monument of his learning, no less than of his power, we have the computation

of the year reformed by an edict of his: a plain evidence that he took it to be as great a glory to himself to understand well the laws of the stars in heaven, as to give laws to men upon earth.

IN his book of Apophthegms, which he collected, we see he esteemed it more honour to make himself a kind of register-book, for entering the wise and remarkable sayings of others, than to have his own sayings revered as oracles, as some vain princes, corrupted by flattery, delighted in doing: and yet, if I were to enumerate his sayings, as *Alexander's*, they are truly such as *Solomon* notes: "The words of the wise are as stings, and like nails driven deep:" of which I will recite three only, not so wonderful for their elegance, as for their force and efficacy.

FIRST, then, he must be considered as a master of speech who could, with one word, appease a mutiny in his army. The occasion was this: it was a custom with the *Romans*, when their Generals spoke to their army, to use the word *Milites*; but when the Magistrates

strates spoke to the people to use the word *Quirites*. *Cæsar*'s soldiers mutinied, and seditiously demanded a dismissal: not that they really desired this, but by such demand to force *Cæsar* to other conditions: unshaken, when silence was made, he thus addressed them, *Ite Quirites*: by which word he intimated, "That they were already dismissed." The soldiers struck, and utterly confounded at this, never left interrupting him as he went on with his speech; and, relinquishing their former demand of dismissal, made it their earnest suit on the other side, that the name of *Milites* might be again restored them.

THE second was thus: *Cæsar* extremely affected the name of King; some therefore were hired, as he passed by, in popular acclamation to salute him King. He, finding the cry weak and thin, put off the matter with a jest, as if they had mistaken his surname: "I am," says he, "not King, but "*Cæsar*:" a speech, certainly, should it be exactly searched, the force and extent of its meaning can scarcely be expressed. First, it pretended a refusal of that name, but not

seriously. Next it shewed an infinite confidence and magnanimity; as if the appellation of *Cæsar* were a greater title than that of King; which came to pass accordingly, and has obtained even to this day. But what made most for his purpose, this speech, by an admirable artifice, pursued closely its own end; for this insinuated, that the senate and people of *Rome* contended with him about a trifle, a name only, (for he had long since the power of a King) and such a name as many, even of mean families bore; for *Rex* was a surname of the *Romans*, as King is with us.

THE last speech I think fit to mention here was this: when *Cæsar*, after the war began, had possessed himself of *Rome*, and broken open the inner treasury, to take money out for the service of the war, *Metellus*, as being then tribune, resisted him; to whom *Cæsar* replied, "If thou dost persist, thou art a dead man." Then, checking himself a little, he added, "Young man, it is harder for me to say this, than to do it." A speech compounded of such wonderful

terror and clemency, that nothing possibly could be more.

BUT to dismiss *Cæsar*; it is evident, that he was fully sensible of his own perfection in learning; as appears by this, that when some were wondering at *Sylla's* resolution in resigning the dictatorship, he scornfully said, “*Sylla* knew not letters, and could not dictate.”

I should now put an end to this discourse concerning the near alliance of military virtue and learning, (for what in this kind can come after *Alexander* and *Cæsar*, were I not charmed with an example of singular magnanimity in the proposal, and skill in the execution, because it so suddenly passed from scorn to wonder. It is of *Xenophon*, the philosopher, who went from *Socrates's* school into *Asia*, with *Cyrus* the younger, in his expedition against King *Artaxerxes*. This *Xenophon*, at that time was a youth, and never had seen army or camp; nor had he then any command in the army, but went only as a volunteer, to enjoy the conversation

tion of his friend *Proxenus*. He was by chance present, when *Falinus* came with an embassy from the great king to the *Grecians*, after *Cyrus* was slain in the field, and the *Grecians*, but an handful of men, having lost their general in the heart of the provinces of *Persia*, cut off from their own country, by the great distance, and very great and deep rivers; the embassy imported, that they should deliver up their arms, and submit themselves to the king's mercy; to which embassy, before answer was publicly made, several of the army conferred familiarly with *Falinus*: and amongst the rest *Xenophon* happened to say, " Why, *Falinus*,
 " we have now but these two things left
 " us, our arms, and our courage: and if
 " we yield up our arms, what use, pray,
 " will our courage be to us?" Here *Falinus*, smiling, said, " If I be not deceived,
 " young gentleman, you are an *Athenian*,
 " and study philosophy; and these are pretty things that you say, but you are very
 " much mistaken if you think your courage
 " a match for the king's forces." Here was the scorn: the wonder follows. This school-
 novice

novice and philosopher, after all the captains and commanders were murdered by treachery, conducted back ten thousand foot, from *Babylon* into *Greece*, through the midst of the king's provinces, in despite of all his forces, to the astonishment of the world, and the no small encouragement of the *Grecians*, from that time, to an invasion and subversion of the *Persian* monarchy: which, indeed, soon after, *Jason* the *Thessalian* designed; *Agefilaus* the *Spartan* attempted; and at last *Alexander* the *Macedonian* atchieved; all stirred up by this brave leading act of that young scholar.

THE

THE INFLUENCE OF LEARNING

O N

M O R A L V I R T U E.

LET us proceed from imperial and military, to moral virtue, and that which is the virtue of private men. First, that of the poet is a most certain truth:

*Scilicet ingenuas didicisse fideliter Artes,
Emollit mores, nec sinit esse feros.*

FOR learning frees mens minds from brutality and barbarism; but yet the emphasis had need be upon the word *fideliter*, “thoroughly;” for a superficial knowledge turns rather to the contrary. Learning, I say, takes away levity, rashness, and insolence, whilst it suggests all dangers and doubts, together with the thing itself, balances the weight of reasons and arguments on both sides: turns back the first offers and pleasing conceits of the mind as suspected,
and

and teaches us not to tread a step without searching and examining our way.

THE same extirpates vain and excessive admiration, which is the very root of all weakness. For we admire things, either because they are new, or because they are great. As to novelty, there is no man that is thoroughly learned and contemplative, but hath this imprinted upon his heart: *Nil novi super terram*: "There is nothing new under the sun." Neither will any man much wonder at the play of puppets, who puts his head behind the curtain, and sees the instruments and wires that cause the motion. For greatness; as *Alexander* the Great, after he had been used to mighty battles and conquests in *Asia*, receiving sometimes letters out of *Greece*, of some expeditions and skirmishes, which were commonly for a bridge, or castle, or for the taking some town at the most, was wont to say, "It seemed to him that news was brought him of the battle of the frogs and the mice that *Homer* talks of:" so, certainly, to a man, that contemplates the universal frame of nature, the globe of the earth, with the men upon it, setting

setting aside the divinity of their souls, will seem nothing greater than a hillock of ants, some of which creep and run up and down with grains of corn, others with their eggs, some empty, all here and there about a little heap of dust.

AGAIN, learning takes away, or at least mitigates the fear of death, and of adverse fortunes; which is one of the greatest impediments to virtue and manners: for if a man's mind be seasoned and deeply affected with the contemplation of mortality, and the corruptible nature of things, he will be of *Epicletus's* sentiment; who going out one day, and seeing a woman weeping for her pitcher that was broke; and going out the next day, and seeing another woman lamenting the death of her son, said, *Heri, vidi fragilem frangi; Hodie, vidi mortalem mori*: "Yesterday I saw a little thing broke; to-day I saw a mortal thing die." Wherefore *Virgil* did very wisely to couple the knowledge of causes, and the conquest of all fear together, as concomitants:

Felix

*Felix qui potuit rerum cognoscere causas,
 Quique metus omnes et inexorabile fatum
 Subjecit pedibus, strepitumque Acherontis avari.*

“ Happy the man, who, studying nature’s laws,
 “ Through known effects can trace the secret cause :
 “ His mind possessing in a quiet state,
 “ Fearless of Fortune, and resigned to fate.”

DRYDEN.

It would be too tedious to run over the particular remedies which learning administers to all the diseases of the mind; sometimes purging out the ill humours; sometimes opening obstructions; sometimes helping digestions: sometimes exciting appetite; and often healing its wounds and ulcers: therefore I will conclude with what seems to be the sum of all, which is, that learning disposes and inclines the mind, never to acquiesce wholly, and to continue fixed and benumbed, as it were, in its own defects, but to be still rousing itself, and breathing after growth and advancement. The illiterate man knows not what it is to descend into himself, or to call himself to account, or the pleasure of that life which is sensible of its growing every day better. If he chance to have any virtue, he will be
 boast-

boasting of it to be sure, expose it every where to full view, and perhaps use it to his own advantage, but neglect to improve and increase it. Again, if he labours under any imperfection, he will use art and industry to conceal and colour it, but very little to amend it; like an ill mower that mows on still, and never whets his scythe. On the other side, a learned man does not only employ his mind, and exercise his virtues, but is continually reforming himself, and making progress in virtue. Nay, to sum up the whole, certain it is, that truth and goodness differ but as the seal and the impression; for goodness is truth's impression; and, on the contrary, the storms of vice and passion break from the clouds of error and falsehood.

OF THE POWER AND SOVEREIGNTY

O F

L E A R N I N G.

FROM virtue let us pass to power and empire, and consider, whether there be any where found so much power and sovereignty, as that wherewith learning invests and crowns man's nature. We see the dignity of commanding is according to that of the commanded. The authority over beasts and cattle, as herdsmen and shepherds have, is a thing contemptible: command over children, as school-masters have, is a matter of small honour: authority over galley-slaves is a disparagement rather than an honour: neither is the command of tyrants much better over a servile people, stripped of all spirit and generosity of mind: therefore it has ever been held, that honours in free monarchies, or common wealths, have more sweetness than under tyrants: because a

command over the willing is more honourable, than over the forced and compelled. And therefore *Virgil*, when he exerts himself to draw forth, from the depth of art, the very best of human honours, he assigned that to *Augustus Cæsar*, in these very words:

———*Victorque volentes*
Per populos dat jura, viamque affertat Olympo.

GEORG. IV.

“ Thus have I sung of fields, and flocks, and trees,
 “ And of the waxen work of lab’ring bees ;
 “ While mighty *Cæsar*, thund’ring from afar,
 “ Seeks on *Euphrates* banks the spoils of war :
 “ With conqu’ring arts asserts his country’s cause,
 “ With arts of peace the willing people draws :
 “ On the glad earth the golden age renews,
 “ And his great father’s path to heav’n pursues,”

DRYDEN.

BUT the empire of knowledge is far higher than the empire over the will, though free and unfettered ; for that has a dominion over reason, belief, and even the understanding, which is the highest part of the soul, and gives law to the will itself. Without question, there is no power on earth which sets up its throne in the spirit and souls of
 men,

men, and in their thoughts and imaginations, their assent also and belief, equal to learning and knowledge; and therefore we see the detestable and extreme pleasure that Arch-heretics, false prophets, and great impostors are ravished and transported with, when once they find that they have begun to reign in the faith and consciences of men: indeed, so great, that he who has once tasted it, can hardly be brought by any persecution or torment, to relinquish his sovereignty. And as this is what is called in the Revelations, "The depth or profoundness of Satan;" so, on the contrary, a just and lawful sovereignty over mens minds, established by the mere evidence and most delightful recommendations of truth, approaches certainly, as near as possible, to the similitude of divine power.

As to fortunes and honours, the munificence of learning is not so confined to the enriching and adorning of whole kingdoms and commonwealths, as not likewise to advance the fortunes and estates of private persons: for it is an ancient observation; "That *Homer* has given more men their living than *Sylla*, *Cæsar*, or *Augustus*;"

notwithstanding their numerous largeſſes, donatives, and diſtributions of lands. Certainly, it is hard ſo ſay, whether arms or letters have advanced greater numbers; and in the caſe of ſovereignty we ſee, that if arms or right of inheritance, have carried away the kingdom; yet learning has generally carried the prieſthood, which has ever ſtood in competition with empire.

If we conſider the delight and pleaſure of knowledge, aſſuredly it far ſurpaſſes all other pleaſures. Shall the pleaſures of the affections as far exceed the delights of the ſenſes, as the happy obtaining of a deſire, does a ſong, or a ſupper? And ſhall not, by the ſame gradation, the pleaſures of the intellect tranſcend thoſe of the affections? All other pleaſures bring ſatiety; and after they have been uſed, and are grown familiar, their verdure and beauty fades: whereby we are inſtructed, that they were not truly pure and ſincere pleaſures, but ſhadows only; and that it was the novelty which pleaſed, rather than the quality: whence voluptuous men often turn monks; and the declining age of ambitious princes is commonly ſad,
and

and besieged with melancholy; but in knowledge there is no satiety, but enjoyment and appetite are perpetually interchangeable: so that this delight must needs be good in itself simply, without accident or fallacy.

NEITHER does that pleasure which *Lucretius* describes hold the lowest place in the mind of man:

Suave mari magno turbantibus æquora ventis, &c.

“ It is a delightful view,” says he, “ to stand or walk upon the shore, and to see a ship tossed upon the sea in a tempest. A pleasure likewise to behold from a lofty turret two armies joining battle upon a plain: but nothing is pleasanter to a man than a mind planted by learning, in the citadel of truth, from whence it may descry the errors and wanderings, the perturbations and labours of other men.”

LASTLY: omitting those vulgar arguments, that by learning only man excels his own species, and that by the help of learn-

ing he ascends in his understanding, even to the heavens, to which in body he cannot: let us conclude this dissertation concerning the excellency of learning, with that good, whereunto man's nature most aspires, which is immortality and eternity. For to this tends generation, the ennobling of families, buildings, foundations, monuments, fame, and, in short, the sum of human desires. But we see how much more durable the monuments of genius and learning are, than those of works and manufactures. Have not the verses of *Homer* continued above twenty-five centuries, without the loss of a syllable or letter? During which time an infinite number of palaces, temples, castles and cities, have decayed and fallen, or been demolished. The true pictures or statues of *Cyrus*, *Alexander*, *Cæsar*, nay, of kings and princes of much later years, cannot possibly now be had; for the originals, worn away long since with age, are perished; and the copies daily lose of their primitive resemblance; but the images of mens genius remain entire in books for ever, exempt from the injuries of time, because capable of perpetual renovation; tho' they

they cannot properly be called images neither, because they are perpetually generating, as it were, and scattering their seed in the minds of men, and raising and procreating infinite actions and opinions in succeeding ages. Now, if the invention of the ship was thought so noble and wonderful a thing, which transports riches and merchandize from place to place, and consociates the most remote regions, by a participation of their productions and commodities: how much more are letters to be magnified, which, as ships furrowing the ocean of time, connect the most distant ages, by a commerce and correspondence in genius and invention?

NAY, further, we see some of the philosophers that were most sunk in matter and sensuality, and least divine, and who peremptorily denied the immortality of the soul, yet, driven to it by the force of truth, granted, that whatsoever motions and actions the soul of man could perform without the organs of the body, these might probably remain after death: that is, such as were the motions in the understanding, but

not of the affections. So immortal and incorruptible a thing did knowledge seem to them. But we, upon whom divine revelation has shone, despising these rudiments, these cheats and delusions of the senses, know that not only the understanding, but also the affections purified; not only the soul, but the body too shall be advanced in due time to immortality; but it must be remembered, that in the proofs of the dignity of knowledge, I did, from the very beginning, separate divine from human testimony, which method I have constantly pursued, and so handled them both apart.

BUT although this be true, nevertheless, I by no means take upon me, nor do I think it possible, by any pleading of mine, in the cause of learning, to reverse the judgment, either of *Æsop's* cock, who preferred the barley-corn before the gem; or of *Midas*, who being chose judge between *Apollo*, president of the Muses, and *Pan*, God of the flocks, judged for plenty; or of *Paris*, who judged for beauty and pleasure, despising wisdom and power; or of *Agrippina's* choice:

Occidat

Occidat matrem, modo imperet: “ Let him
 “ kill his mother, provided he rule:” pre-
 ferring empire with conditions, be they ever
 so detestable: or of *Ulysses*; *Qui vetulam suam*
prætulit immortalitati; “ Who preferred his
 old woman to immortality: being indeed a type
 of those who prefer custom before all excellen-
 cy; and a number of the like popular judg-
 ments; for these things will continue as they
 have been; but so will that also continue
 upon which learning has ever relied, as upon
 a most firm foundation that can never be
 shaken: *Justificata est sapientia a filis suis:*
 “ Wisdom is justified by her children.”
 Matt. xi.

OF THE ACTS OF MERIT

TOWARDS

L E A R N I N G.

THE acts and works, pertaining to the advancement of learning, are conversant about three objects: the seats of learning; the books of learning; and about the persons of learned men. For as water, whether falling from the dew of heaven, or rising from the springs of the earth, easily scatters and loses itself in the ground, except it be collected into some receptacle, where it may by union, comfort and sustain itself; for which purpose the ingenuity of man has invented spring-heads, conduits, cisterns, and pools; and beautified them also with divers ornaments, serving for magnificence and state, as well as for use and necessity; so this most precious liquor of knowledge, whether it distils from divine inspiration, or springs from human sense, would soon all perish and vanish,

vanish, if it were not preserved in books, traditions and conferences; especially in particular places designed to that end, as Universities, Colleges, and Schools; where it may both have fixed stations, and power and ability to unite and collect itself into a body.

FIRST, the works which concern the seats of the Muses are four: foundations of Houses; endowments of revenues; grant of privileges; institutions and statutes for government: all tending to privateness and quietness of life, and a discharge from cares and troubles; much like *Virgil's* requisites for the building of hives, in order to make honey:

*Principio sedes apibus, statioque petenda
Quo neque sic ventis aditus, &c.*

VIRG. Georg. IV.

"First; for thy bees a quiet station find,
"And lodge them under covert of the wind."

DRYDEN.

BUT the works touching books are principally two: first, libraries, wherein, as in stately monuments, the relics of the ancient
faints,

faints, full of true virtue, and that without delusion or imposture, are preserved and reposed. Secondly, new editions of authors, furnished with more correct impressions, more faithful translations, more useful comments, more diligent annotations, and the like train.

AGAIN, the works which regard the persons of learned men, besides the advancing and countenancing of them in general, are likewise two: the reward and designation of readers in sciences already invented and known; and of writers and enquirers, concerning any parts of learning not hitherto sufficiently laboured and improved.

THESE are briefly the works and acts, wherein the merits of renowned princes, and other illustrious personages, towards the state of learning, have shone.

As for any particular commemorations of persons that have deserved well of learning, when I think thereupon, I call to mind that of *Cicero*, which, after his return, put him upon giving general thanks; “ It is difficult
“ not

“ not to pass by some one, and ungrateful
 “ to pass by any one.” Let us rather, according to the advice of the scripture, “ look
 “ unto that part of the race which is set
 “ before us, than look back unto those
 “ things which are behind us.”

D E F E C T S

O F

LITERARY ESTABLISHMENTS.

FIRST, therefore, amongst so many noble foundations of colleges throughout Europe, I wonder they should be all destined to particular professions, and none dedicated to the free and universal studies of arts and sciences : for if men judge that all learning should be referred to use and action, they judge right ; but yet it is easy this way to fall into the error censured in the ancient fable ; in which the other parts of the body entered

entered an action against the stomach, because it neither performed the office of motion ; as the limbs do, nor of sense, as the head does ; though it was the stomach that concocted, digested, and distributed nourishment to the rest of the body : just so, the man that thinks philosophy and universal contemplation a vain and idle study, does not consider that all professions and arts are supplied with materials and strength from thence : and I am verily persuaded, that this very thing has been a great cause that hath retarded the progression of learning hitherto ; because these fundamental sciences have been studied superficially, and deeper draughts have not been taken of them. For if you will have a tree bear more fruit than usual, it is in vain to think of applying to the boughs ; you must stir the earth about the root, and apply richer mould, or you do nothing. Nor again is it to be passed over in silence, that this dedication of colleges and societies, only to the use of professory learning, has not only been an enemy to the growth of sciences, but has contributed likewise to the prejudice of kingdoms and states. Hence it is that princes, when they

would make choice of ministers fit for the affairs of state, find about them a marvellous solitude of such men; for this reason, because there is no collegiate education designed to this end, where such as are framed and fitted by nature for that office, may, besides other arts, study chiefly history, modern languages, books, and treatises of policy; that so they may thence come more able and better furnished to the offices of state.

AND because founders of colleges do plant, but founders of lectures water; it follows now in order to speak of the defect which is in public lectures. I disapprove then exceedingly of the smallness and meanness of salaries, especially with us, assigned to lecturers, whether of arts or professions. For it is of mighty importance to advancement in sciences, that professors in every kind, be chosen out of the ablest and most sufficient men; as those whose labour is not for transitory use, but to propagate and supply offspring to science for future ages. This cannot be, unless the reward and conditions be appointed such, as may fully satisfy the most eminent men in that art; so as he may not think

think it a hardship to spend his whole life in that function, and never desire to practise. Wherefore that sciences may flourish, *David*'s military law should be observed: "That he who staid with the carriage should have an equal part with him that went down to the battle." I. Sam. xxx. Else will the carriages be ill attended. So professors in sciences are, as it were, the preservers and guardians of the stores and provisions of learning, from whence men in action may be furnished. Wherefore it is but reason, that their salaries be equal to the gain of practitioners. Otherwise, if the allowances appointed to the fathers of sciences are not ample and handsome, it will come to pass,

Ut patrum invalidi referant jejunia nati.

VIRG. Georg. III.

— " If the fire be faint, or out of case,
" He will be copied in his famish'd race."

DRYDEN.

I will note another defect, wherein I shall have need to call in some alchymist to my aid; since this sect of men advise students to sell their books, and build furnaces, quitting
and

and forsaking Minerva, and the Muses, as barren virgins, and applying themselves to Vulcan. Yet, certainly, it must be confessed, that to the depths of contemplative, as well as the fruits of operative study, in some sciences, especially natural philosophy and physic, books are not the only instrumentals: the munificence of men has not been altogether wanting; for we see spheres, globes, maps, &c. have been provided as appurtenances to astronomy and cosmography, as well as books. We see, likewise, that some places dedicated to the study of physic have gardens for the inspection and knowledge of simples of all sorts; and do likewise command the use of dead bodies for anatomical observations: but these respect very few things. In general, be it set down for a truth, that there can hardly be made any great proficiency in the disclosing and unlocking the secrets of nature, unless there is a plentiful allowance for experiments, whether of *Vulcan* or *Dædalus*: “Furnace
“or engine:” or any other kind whatsoever. And, therefore, as secretaries and emissaries of princes are allowed to bring in bills of charges, for their diligence in the enquiry

and discovery of new occurrences and state secrets; so the researchers of nature must be paid their expences, or else we shall never be advertised of many things most worthy to be known. For if *Alexander* supplied *Aristotle* with a vast sum of money to hire hunters, fowlers, fishers, and others, that he might come the better appointed to compile a history of living creatures; greater certainly is their merit who wander not in the forests of nature, but open themselves a way in the labyrinths of the arts,

ANOTHER thing which I find fault with is this: it is an usual practice, though in my opinion an absurd one, for scholars in the Universities to be entered too soon in logic and rhetoric; arts surely fitter for graduates, than children and novices. For these two, if the matter be rightly taken, are in the number of the gravest sciences; being the art of arts, the one for judgment, the other for ornament. They contain likewise rules and directions, either for disposing or illustrating of matter; and therefore for raw and empty minds, which have not yet gathered that which *Cicero* calls *sylva* and *supellex*,

lex, “stuff and variety,” to begin with those arts; as if a man having a mind to weigh, measure, or paint the wind, doth but work this effect, that the virtue and strength of these arts, which are very great and extensive, are almost made contemptible, and have degenerated either into childish sophistry, and ridiculous affectation; or at least have suffered much in their reputation. And, further, the too early and untimely accession to these arts, has, of necessity, drawn along with it a puerile delivery and handling of it, such as is fitted indeed to the capacity of children. Another instance that I shall bring of an error grown long since inveterate in the Universities, is this: that in the exercises of the schools there used to be a divorce, very prejudicial, between invention and memory; for there, most of their speeches are either altogether premeditated, so that they are uttered in the very precise form of words they were conceived in, and nothing left to invention, or merely *extempore*: so that very little is left to memory: though in life and practice there is rarely any use of either of these apart, but rather of their intermixture; that is, of notes or

memorials, and of *extempore* speech together. So that by this course the exercises do not fit the practice, nor does the image answer the life. And it is a rule ever to be observed in exercises, that all, as near as may be, represent those things which in common course of life used to be practised; otherwise they will pervert the motions and faculties of the mind, and not prepare them: the truth of which is not obscurely seen, when University-men set to the practice of their professions, or other actions of civil life; which when they do, this want, whereof we speak, is soon found out by themselves, though sooner by others. But this part, touching the amendment of the institutions and orders of the Universities, I will conclude, with the clause of *Cæsar's* letter to *Oppius* and *Balbus*: *Hoc quemadmodum fieri possit, nonnulla mihi in mentem veniunt, et multa reperiri possunt; de iis rebus rogo vos, ut cogitationem suscipiatis.*

ANOTHER defect which I note ascends a little higher than the former: for as the proficiency of learning consists much in the wise government and institution of Universities
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in particular; so it would be yet more advanced, if the universities in general, dispersed throughout all Europe, were united in a nearer conjunction and correspondence by mutual intelligence. For there are, we see, many orders and commonalties, which, tho' they are divided under distinct sovereignties and territories widely distant, yet they contract and maintain a society and kind of brotherhood one with the other: insomuch as they have their prefects, some provincial, others general, to whom they all yield obedience; and surely, as nature creates a brotherhood in families, and mechanical arts contract a brotherhood in companies, the anointment of God superinduces a brotherhood in kings and bishops; vows and rules unite a brotherhood in orders: so in like manner, there cannot but intervene a noble and generous fraternity amongst men by learning and illumination, relating to that paternity which is attributed to God, who is called the "Father of illuminations," or "lights."

LASTLY: this I complain of, which I touched on before, that there has not been,

or very rarely, any public designation of able men who might either write, or make enquiry concerning such parts of learning as have not hitherto been sufficiently explored. In which point it would be of great use, if there were erected a kind of visitation of learning; and estimate taken, what parts of learning are rich and well improved; what poor and destitute. For the opinion of plenty is amongst the causes of want; and great quantity of books makes a shew rather of luxury than want: which, superfluity, nevertheless, is not to be remedied by making no more books, but by making more good books; which may be of such a kind, that, like *Moses's* serpent, they may devour the serpents of the enchanter.

THE removing of all these defects now enumerated, except the last, and of the active part of the last two, which is the designation of writers, are works truly *Basilical*; towards which the endeavours and industry of a private man may be but as an image in a cross way, that can point the way, but cannot go it. But the speculative part, which be-
longs

longs to the survey and examination of learning, namely, what is deficient in every particular science, is open to the industry even of a private man.

ON THE HISTORY OF LEARNING.

SURELY the history of the world, without this part, may be thought not unlike the statue of *Polyphemus* with his eye out; that part of the image being wanting, which most represents the nature and spirit of the person. And though we set down this as deficient, yet we are not ignorant, that in divers particular sciences, as of the juriconsults, the mathematicians, the rhetoricians, and the philosophers, there are set down some slight memorials, or certain dry relations, of the sects, schools, books, authors, and successions of such like sciences: that there are likewise some thin, barren treatises touching

the inventors of things and arts; but for a just and universal history of learning, we assert, that none hitherto has been published: wherefore we will propound both the argument, the manner of contriving, and the use thereof.

THE argument is no other than a recital from all times of what sciences and arts have flourished in any ages and climates of the world. Let there be made a rehearsal of their antiquities, their advances, also of their progress through divers parts of the world; for sciences shift and remove no less than people. Again, of their declensions, obli-vions, instauration. Let there likewise be observations made through every particular art, of the occasion and original of their invention; of their manner of delivery; of their several administrations and management. Let there also be added, the sects and controversies most famous, which have taken up and exercised learned men; the scandals and reproaches to which they lay open; and the praises and honours bestowed on them. Let there be noted, the chief au-
thors,

thors, the best books, schools, successions, academies, societies, colleges, orders; and, in short, whatsoever belongs to the state of learning: but, above all, we would have this observed, which is the ornament and soul of civil history, that the causes be combined with the events: which is, that the natures of countries and people be recorded; and the dispositions apt and able, or unapt and unable for various disciplines; the accidents of times adverse or propitious to sciences; the zeal and mixtures of religion; the discountenance and favour of laws; and, lastly, the eminent virtues and influence of certain persons for the promoting of learning, and the like. But our advice is, that all these points may be so handled, that time be not wasted in praise and censure, after the manner of the critics, but that the things be barely related in a manner perfectly historical, and our own judgment sparingly interposed.

As to the manner of compiling such a history, we do especially advise, that the materials be drawn, not only from histories
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and critics; but, also, that through every century of years, or even lesser intervals, by a continued sequence of time, beginning from the highest antiquity, the best books written within those spaces of time be consulted, to the end that not from a thorough perusal of them, which would be an endless work, but from taste and observation of the argument, stile, and method, the learned genius of that time, as by a kind of charm, may be called up from the dead.

As to the use of this work, it is not designed that the honour and pomp of learning may be celebrated by so many images every way surrounding her; nor that for the ardent affection we bear to learning we desire, even to curiosity, to enquire and know, and preserve whatsoever to the state of learning may any way belong; but chiefly for a more grave and serious purpose. It is in few words this: that by means of such a relation as we have described, we conceive a very great addition may be made to the wisdom and skill of learned men, in the use and management of learning; and that the motions, perturbations,

bations, vices, and virtues of intellectual matters, as well as civil, may be noted, and the best regimen from thence drawn and practised; for we do not suppose that St. *Austin's* or St. *Ambrose's* works will make so wise a bishop or a divine as ecclesiastical history thoroughly read and observed; which we make no question would be the case of learned men also from the history of learning; for what is not sustained and propt up with examples and records, is very apt to fall, and is exposed to rashness. Thus much of the history of learning.

ON

ON THE DIGNITY AND DIFFICULTY

O F

CIVIL HISTORY.

THE dignity and authority of civil history is eminent among human writings; for upon the credit of this, the examples of our ancestors, the vicissitudes of affairs, the grounds of civil prudence, and lastly, the name and fame of men depend: but the difficulty is as great as the dignity: for to draw back the mind in writing to things past, and to make it as it were aged, to search out with diligence, to relate with fidelity and freedom; finally, to represent to the eye, with beauty and clearness of expression, the changes of times, the characters of persons, the waverings of counsels, the turns and windings of actions, as of waters, the subtilties and depths of pretences, and the secrets of government, is a task of great pains and judgment; especially since ancient mat-
ters

ters are subject to uncertainty; modern, liable to danger. Wherefore the errors also are many which attend civil history: while the greatest part write poor and vulgar narratives, the very reproach of history; others patch up, in a rash haste, and unequal contexture, particular relations, and brief memorials; others run over the heads only of actions done; others, on the contrary, pursue every trivial circumstance, nothing belonging to the sum and issue of things: some, out of too much indulgence to their own genius, have the confidence to feign many things: while others add and imprint upon affairs the image, not so much of their own wit as of their affections, mindful of their own sides and parties, but unfaithful deponents of fact; some every where intersperse such politic observations as they most fancy; and seeking occasion of digression for ostentation, too slightly break off the narrative: others are injudiciously prolix in their speeches and harrangues, or even of the very facts; so that it is sufficiently manifest, that in the writings of men there is nothing found more rare than a just history, and in all parts complete and perfect.

ON THE PARTITION
OF
CIVIL HISTORY.

CIVIL history is of three kinds, not unlike the three sorts of pictures or images; for of pictures and images we see some imperfect and unfinished, as wanting the last hand; others perfect and finished; others again decayed and defaced with age. In like manner we will divide civil history, which is a sort of image of actions and times, into three kinds, agreeable to those of pictures; namely, memorials, perfect history, and antiquities. Memorials are histories unfinished, or the first and rude draughts of history; and antiquities are history defaced, or some remnants of history which have casually escaped the shipwreck of time,

MEMORIALS, or preparatory history, are of two sorts: one of which I think good to term commentaries, the other registers. Commentaries set down a naked series and connexion of actions and events, omitting
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the causes and pretexts of things, their beginning also and the occasion, the counsels likewise and speeches, with other passages of action; for this is the true nature of commentaries; though *Cæsar*, in modesty mixed with greatness, was pleased to give the name of commentary to the best history in the world. But registers are of a two-fold nature; for they comprehend either the titles of matter and persons, in a continuation of time, such as we call calendars and chronologies; or the solemnities of acts, as the edicts of princes, the decrees of councils, judicial proceedings, public orations, letters of state, &c. without a contexture, or continued thread of narration.

ANTIQUITIES, or remnants of history, are, *tanquam tabulæ naufragii*: “like the scattered planks of a shipwreck.” When the memory of things failing, and being almost drowned, nevertheless, industrious and sagacious men, by an obstinate and scrupulous diligence and observation, out of genealogies, calendars, inscriptions, monuments, coins, proper names and styles, etymologies of words, proverbs, traditions, archives,

chives and records, as well public as private, fragments of stories, scattered passages of books not historical; out of all these they rescue something from the deluge of time.

Just, or perfect history is of three kinds, according to the nature of the object which it proposes to represent; for it either represents some portion of time, some memorable person, or some more illustrious action. The first we call chronicles, or annals; the second, lives; the third, relations. Of these, chronicles seem to excel in glory and name; lives in profit and use; relations in sincerity and truth: for chronicles exhibit the magnitude of actions, and the face and deportments of public persons, and pass over in silence the smaller passages and motions of men and matters. And it being the peculiar workmanship of God to “hang the greatest weight “upon the smallest wires,” it comes frequently to pass, that this sort of history, pursuing only the greater occurrences, rather sets forth the pomp and solemnities of affairs, than their true springs, and more subtle contextures. Further, though it add and intermix the counsels themselves, yet, delighting

lighting in grandeur, it invests mens actions with more gravity and prudence than indeed is in them: so that a satire may be a truer picture of human life than such kind of histories.

LIVES, on the other hand, if they are written with diligence and judgment, for I speak not of eulogies, and such like dry rehearsals, propounding to themselves a single person for their subject, in whom, actions both light and weighty, small and great, public and private, are necessarily compounded and mixed together, do certainly exhibit more lively and faithful narratives of things, which a man may safely and happily transfer into example,

So again, special relations of actions, as the war of *Peloponnesus*, the expedition of *Cyrus*, the conspiracy of *Cataline*, and the like, cannot but be more purely and exactly true, than the histories of times; because in them may be chosen an argument that is manageable and limited, and of such a quality, that exact knowledge, certainty, and full information may be had of it: whereas he

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who, undertakes an history of an extensive period, must meet with many blank spaces, which he must be forced to fill up out of his own genius and conjecture; yet, what we have said touching the sincerity of relations, is to be understood with some reserve; for it must be confessed, since all human things labour under imperfections, and conveniences are almost always accompanied with inconveniences, such kind of relations, especially if they are published about the times of the acts done, since they are many times written either with favour or hatred, of all other narrations are deservedly most suspected. But then again, to this inconvenience a remedy also arises: that these relations, as they are not set out by one side only, but through faction and partiality, are generally published on both sides, do by this means open and prepare a way, as between extremes, to truth; and, after the heat of passion is over, to a good and wise historian, they become none of the worst materials of a more perfect history.

As for lives, when I think on the subject I am seized with a kind of admiration, that these

these our times should not know their own virtue, since there is so seldom any memorial or record of the lives of those who have been eminent in our times; for although kings, and such as have absolute sovereignty, may be few; and princes in free common-wealths, so many states being converted into monarchies, are not many; yet, however, there have not been wanting excellent men, though living under kings, that deserve better than an uncertain and wandering fame of their memories, or dry eulogies. For to this point the invention of one of the modern poets, whereby he has enriched the ancient fiction, is not inelegant. He feigns, that at the end of the thread of every man's life there hangs a medal or tablet, whereon the name of the deceased is stamped; that time waits upon the sheers of the fatal sister; and, as soon as the thread is cut, immediately takes up the medals, carries them away, and a little after throws them out of his bosom into the river Lethe: and that about the river there are a world of birds flying up and down that snatch the medals; who, after they have carried them about in their beaks a little while, through negligence, suffer

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them

them to fall into the river. Among these birds there are a few swans found, which if they get a medal, are wont immediately to carry it to a certain temple consecrated to immortality: now such swans have almost failed in our age; and although most men, abundantly more mortal in their pursuits and studies than in their bodies, despise the memory of their name, as smoke or air: *Animi nil magnæ laudis egentes*: “Degenerate souls, “not ambitious of fame and glory:” such whose philosophy and severity springs from that root: *Non prius laudes contempsimus, quam laudanda facere desivimus*: “We did not begin to despise praise till we had left off doing praise-worthy things:” yet that with us shall not prejudice *Solomon’s* judgment: “The memory of the just is blessed, but the “name of the wicked shall rot.” The one perpetually flourishes; the other either instantly passes into oblivion, or putrifies into an ill odour; and, therefore, in that very style or form of speech, which by received custom and with great reason is attributed to the deceased, “of happy memory;” “of “pious memory;” “of blessed memory;” we seem to acknowledge that which *Cicero*,
borrow-

borrowing it of *Demosthenes*, alledged: "That
 " good fame is the proper possession of the
 " dead:" which possession I cannot but ob-
 serve in our age lies generally waste and
 neglected.

ON ECCLESIASTICAL HISTORY.

ECCLESIASTICAL history in general
 falls under the same division in a man-
 ner with civil history; for there are ecclesi-
 astical chronicles, lives of fathers, relations
 of synods, and of the like things belonging
 to the church. But in propriety of speech
 it is rightly divided into the history of the
 church, keeping the general name; the his-
 tory of prophecy; and the history of Provi-
 dence. The first describes the times, and
 different states of the church militant; whe-
 ther she be fluctuant, as the ark in the
 deluge; or moveable as the ark in the wil-
 derness; or at rest as the ark in the temple:

that is, the state of the church in persecution, in remove, and in peace. In this part I find no deficiency; there is rather superfluity here than want: only this I could wish, that the virtue and sincerity of the narrations answered to the mass and quantity.

THE second part, which is the history of prophecy, consists of two relatives, the prophecy, and the accomplishment; and, therefore, the nature of such a work should be, that every prophecy of scripture be sorted with the event fulfilling it, and this throughout all the ages of the world, both for the better confirmation of faith, and for the establishing a kind of art and skill in the interpretation of those prophecies which are yet unfulfilled: allowing, nevertheless, that latitude which is proper and familiar unto divine prophecies, that their accomplishments may be both perpetual and punctual; for they are of the nature of their author, “with whom one day is as a thousand years, “and a thousand years but as one day:” and though the fulness and height of their completion may be assigned to some one age, or even

even moment, yet they have in the mean time many degrees and seals of accomplishment, throughout many ages of the world. This work I set down as deficient; but it is of that nature as must be handled with great wisdom, sobriety, and reverence, or not at all.

THE third part, which is the history of Providence, has fallen indeed under the pens of many pious men, but not without the difference of parties. It is employed in observing that divine correspondence which is between God's revealed and secret will; for although the counsels and judgments of God are so obscure that they are, for the most part, inscrutable to the natural man; nay, many times withdraw themselves from their eyes that look out of the tabernacle; yet, at some times it pleases the divine wisdom, for the confirmation of his own, and the confutation of those who are "as without God in the world," to write them in capital letters, and offer them to sight so visibly, that, as the Prophet saith, "he that runs may read them:" which is, that mere sensual

and carnal men, who hasten by God's judgments, and never fix down their thoughts upon them; yet, though they are upon the speed, and intend nothing less, are urged to acknowledge them. Such are late and unlooked for vengeance; sudden and unexpected deliverances; the divine counsel passing through crooked mazes and stupendous windings, and at length manifestly disentangling and clearing themselves: which serve not only for the consolation of the minds of the faithful, but for the astonishment and conviction of the consciences of the wicked.

ON THE APPENDAGES OF HISTORY.

THERE ought to be records kept, not only of the deeds of mankind, but of their words also; yet it is true, that sometimes words are inserted in the history itself so far as they conduce to a perspicuous and grave delivery of deeds. But books of orations, epistles, and apothegms, are appropriated to the custody of the sayings of men; and, certainly, the orations of wise men touching business, and matters of grave and high importance, conduce much both to the knowledge of the things themselves, and to eloquence.

BUT yet greater helps for the furnishing civil prudence are from the letters of great personages, touching affairs of state; for of all the words of men, there is nothing, in my judgment, more sound and excellent than these letters; for they are more natural than orations, and more advised than extem-

extempore conference. The same, when they are continued according to the series of time, as in those from ambassadors, governors of provinces, and other ministers of state, to kings or senates, or from them to their ministers, are without question, of all others, the best provision for history; and, to a diligent reader, the best histories themselves.

NEITHER are even apothegms only for delight and ornament, but for business, also, and civil use. For they are, according to *Cicero*, *Secures*, or *Mucrones verborum*; which, by their sharp edge, cut and penetrate the knots of affairs and business; and for occasions they run round in a ring; and what was formerly proper may be applicable and of use again, whether a man produce them as his own, or as ancient. It is a great pity *Cæsar's* book of apothegms is lost; for as his history, and those few letters of his which we have, and those apothegms which were his own, excel all others; so I suppose would his collection of apothegms have done. As for those which are collected
by

by other writers, either I have no taste in such matters, or else their choice has not been happy.

AND so much for history, or that part of learning which answers to one of the cells or domicils of the understanding, which may be properly called memory.

O N P O E T R Y.

POETRY is a part of learning, in measure of words for the most part restrained; in matter, loose and licensed; and truly refers to the imagination, which, not being tied to the laws of matter, may at pleasure join what nature hath severed, sever that which nature has joined, and so make unlawful matches and divorces of things: *Pictoribus atque poetis, &c.* It is taken in two senses, both in respect of words, or matter. In the first sense it is but a character of style, and belongs to the arts of speech: in the latter it is a principal portion of learning, and is nothing else but feigned history.

THE

THE trueſt and moſt proper partition of poetry is narrative, repreſentative, and alluſive. The narrative is a mere imitation of hiſtory, with the exceſſes before mentioned; chuſing for ſubject commonly war and love, rarely ſtate, and ſometimes pleaſure or mirth. Repreſentative is, as it were, a viſible hiſtory; for it gives an image of actions as if they were preſent, as hiſtory does of actions in nature as they are, which are paſt. Alluſive, parabolical, or typical hiſtory, which brings down the intellectuals to ſenſe.

As for narrative Poetry, or if you pleaſe to call it heroical, ſo you underſtand it of the matter, not of the verſe, ſeems to be raiſed from a noble foundation, which makes much for the dignity of man's nature. For the ſenſible world being inferior in dignity to the rational ſoul, this poetry ſeems to give to human nature, what hiſtory denies it; and to ſatisfy the mind with the ſhadows at leaſt of things, where the ſubſtance cannot be had. For if the matter be thoroughly conſidered, a ſtrong argument may be drawn from poetry, that a more illuſtrious magnitude of things, a more perfect goodneſs, and
a more

a more beautiful variety pleases the soul of man, than what it can any way find in mere nature since the Fall: wherefore seeing the acts and events which are the subjects of true history, are not of that magnitude to content the soul of man, poetry is ready at hand to feign acts greater and more heroical. Seeing true history relates the successes of actions, in no wise proportionable to the merit of virtue and vice, poetry corrects it, and exhibits issues and fortunes more agreeable to desert, and more according to the law of Providence. Seeing true history, by representing actions and events more ordinary and less diversified, satiates the mind of man, poetry cheers and refreshes it; chanting things rare and unexpected, and full of alternate variations. So that Poetry serves and contributes not only to delight, but also to magnanimity and morality: wherefore it may very reasonably seem to partake of a kind of divinity, because it erects and exalts the spirit with high raptures, by proportioning the images of things to the desires of the mind, not by confining and bending the mind to the nature of things, as reason and history do. And by these allurements
and

and congruities whereby it sooths the soul of man, joined also with concerts of music, whereby it may more sweetly insinuate itself; it hath made a way to esteem, even in very rude times, and with barbarous nations, where other learning has stood wholly excluded.

DRAMATIC Poetry, whose theatre is the world, is of excellent use, if it were not abused. For both the instruction and corruption of the theatre may be great; but the corruptions in this kind abound: the discipline is altogether neglected in our times, although in modern common-wealths the action of the theatre be esteemed but as a matter wholly ludicrous, unless it draws too much from satire; yet, the care of the ancients was, that it should instruct the minds of men to virtue. Nay, wise men and great philosophers, have looked upon it as a kind of musical quill of the mind; and certainly it is proved from some secret sympathy of nature, that the minds of men are more open to affections and impressions, congregate, than solitary.

But

BUT parabolical Poetry excels the rest, and seems to be a sacred and venerable thing; especially as religion itself makes use of its service, and by its ministry holds a divine commerce with men. Yet even this also is found to have been adulterated by the levity and indulgence of mens minds about allegories; and it is of ambiguous use, and applied to contrary ends; for it serves to obscure, and it serves also to illustrate: in this, there seems to be fought a way to teach: in that, an art to conceal. And this way of teaching which tends to illustration, was very much in use in ancient times; for the inventions and conclusions of human reason, even those which are now trite and common, were then strange and unusual, and the understandings of men were not capable of such subtilty, unless those points were, by such resemblances and examples, brought down nearer to sense. Wherefore all things in those ages were full of fables, parables, ænigmas, and similitudes. Hence were the symbols of *Pythagoras*, the ænigmas of *Sphinx*, the fables of *Æsop*, and the like. Further, the apothegms of the ancient sages expressed a thing generally by similitudes.

Hence

Hence *Menenius Agrippa* amongst the *Romans*, (a nation in that age by no means learned,) repressed a sedition by a fable. And as hieroglyphics were before letters, so parables were before arguments: and even now there is, as in times past, much life and vigour in parable; because arguments cannot be so clear, nor even examples so well applied.

BUT there remains yet another use of parabolical Poetry, opposite in a manner to the former; tending as we said, to obscure such things, namely, the dignity whereof deserves to be retired, and separated, as it were, by a curtain: that is, when the secrets and mysteries of religion, policy, and philosophy, are involved in fables and parables.

BUT whether there be any mystical sense couched under the ancient fables of the poets, may admit some doubt: and indeed I confess, for my part, that I incline to this opinion, that many of the fables of the ancient poets had a mystery infused into them. Nor is it any argument with me, to pass judgment upon them contemptuously, because they are left commonly to school-boys and

grammarians, and are therefore little noted; but, on the contrary, since it is manifestly clear, that the writings which recite these fables, of all the writings of men, next to sacred writ, are the most ancient; and that the fables themselves are far more ancient than they; being recited by those writers, as credited and received before, not as invented by them, they seem to be like a fine rarified air, which, from the traditions of more ancient nations, fell into the flutes of the *Grecians*: because whatsoever has been hitherto attempted for the interpretation of these parables, by unskilful men, gives us no satisfaction.

SURELY of those poets which are now extant, even *Homer* himself, notwithstanding he was made a kind of scripture by the latter schools of the *Grecians*, yet I should without any difficulty pronounce, that his fables had no such inwardness in his own meaning; but what they might have upon a more original tradition, is not easy to affirm, for he was not the inventor of many of them.

IN this third part of learning, which is poesy, I can report no deficiency. For being as a plant that comes of the lust of the earth, without a formal feed, it has sprung up, and spread abroad more than any other kind: but to ascribe unto it that which is due, for the expression of affections, passions, corruptions, and customs, we are beholden to poets more than to the philosophers works; and for wit and eloquence, not much less than to orators harangues. But it is not good to stay too long in the theatre. Let us now pass to the judicial place or palace of the mind, which we are to approach and view with more reverence and attention.

ON THE TRIUMPHS OF MAN.

THE knowledge concerning the nature of man comprehends two things especially; namely, the contemplation of the miseries of mankind, and of his prerogatives or excellencies. But the bewailing of man's miseries hath been elegantly and copiously set forth by several in the writings, of philosophers, as well as divines; and it is both a pleasant and a wholesome contemplation.

BUT that touching man's prerogatives has seemed to me a point that may well be set down among the deficiencies of learning. *Pindar*, in extolling *Hiero*, says most elegantly, "That he cropt off the tops or "summits of all virtues." And truly, I should think it would much conduce to the magnanimity and honour of man, if a collection were made of the ultimates in the

scholastic, or summits in the pindaric phrase, of human nature, principally out of the faithful reports of history; that is, “What is
 “the last and highest pitch to which human nature in itself ever ascended, in all
 “the perfections both of body and mind?” What a strange ability was that which is reported of *Cæsar*, “That he could dictate at
 “once to five amanuenses!” So also the exercitations of the ancient rhetoricians, *Protagoras*, *Gorgias*; likewise of philosophers, *Callisthenes*, *Possidonius*, *Carneades*; who were able to discourse *extempore* upon any subject, *pro* or *con*, with fluency and elegance, do much ennoble the power of mans wit, and natural endowments. And that which *Cicero* reports of his master *Archias* is little for use, but admirable for strength of faculty: “That he was able to recite *extempore*
 “a great number of verses, pertinent
 “to the discourse in hand whatever it was.” That *Cyrus* or *Scipio* could call so many thousands of men by their particular names, is a singular commendation to that faculty of the mind, memory.

BUT

BUT the trophies of moral virtues are no less famous than those of intellectual. What a mighty example of patience does that common story of *Anaxarchus* present unto our thoughts, who, being put to the rack and torture, bit out his own tongue, the hoped instrument of discovery, and spit it in the tyrant's face ! Nor is that inferior for tolerance, though much in the dignity of the cause, of a certain *Burgundian*, who had committed a murder upon the Prince of *Orange* : this fellow being scourged with iron rods, and his flesh torn with burning pincers, gave not so much as a groan ; and, when a broken piece of the scaffold fell by chance upon the head of one that stood by, the singed stigmatized wretch, in the midst of his tortures, laughed ; who, but a little before, had wept at the cutting off his curled head of hair.

IN like manner a wonderful serenity and security of mind has shone in many at the very instant of death, as was that of a centurion in *Tacitus* : he, being ordered by the soldier that had commands to execute him,

to stretch forth his neck valiantly: "I wish," says he, "thou wouldst strike as valiantly." But *John Duke of Saxony*, when the commission was brought him, as he was playing at chess, wherein his death was commanded the next day, called to one that stood by him, and smiling, "Look," says he, "if I have not the better hand of the game. For he (pointing to him with whom he played) will boast when I am dead, that himself was the better of the set."

CHANCELLOR *More*, of *England*, when a barber came to him the day before he was to die, sent, it seems, for this end, left the sight of his long hair might more than ordinary move compassion in the people at his execution, and asked, if he would not please to have his hair cut? He refused, and turning to the barber, "*The King*," says he, "is at suit with me for my head; and till that controversy be ended, I mean to bestow no cost upon it." And the same person, at the very point of death, after he had laid his head upon the fatal block,
raised

raised himself up again a little, and having a fair large beard, gently removed it, saying, " Yet, I hope, this hath not offended thy King." But not to dwell too long upon this point, it is plain enough what we mean: namely, that the wonders of human nature, and its ultimate powers and virtues, as well of mind as body, should be collected into a volume; which might serve as a Kalendar of human triumphs. For this purpose we approve the design of *Valerius Maximus*, and *C. Plinius*; but wish they had used more diligence and judgment,

ON DIVINE, NATURAL,

AND

HUMAN PHILOSOPHY.

THE knowledge of man is as the waters, some descending from above, and some springing from beneath; the one informed by the light of nature, the other inspired by divine revelation.

THE light of nature consists in the notions of the mind, and the reports of the senses; as for knowledge which man receiveth by teaching, it is accumulated and not original, as in a water, that, besides its own spring-head, is fed with other springs and streams. So then, according to these two different illuminations or originals, knowledge is first of all divided into divinity and philosophy.

IN philosophy, the contemplations of man do neither penetrate unto God, nor are circumferred to nature, nor reflected or reverted upon himself. Out of which several inquiries there arise three subjects, divine philosophy, natural philosophy, and human philosophy, or humanity. For all things are marked and stamped with this triple character, of the power of God, the difference of nature, and the use of man. But because the distributions and partitions of knowledge are not like several lines that meet in one angle, and so touch but in a point; but are like branches of a tree, that meet in a stem, which has a dimension and quantity of intireness and continuance before it comes to discontinue and break itself into arms and boughs; therefore it is good, before we enter into the former distribution, to erect and constitute one universal science, by the name of *Philosophia prima*, “primitive” or summary philosophy,” as the main and common way, before we come where the ways part and divide themselves; which science, whether I should report as deficient or not, I stand doubtful.

FOR

FOR I find a certain rhapsody of natural theology, and of divers parts of logic; of that part of natural philosophy which concerns the principles; and of the other part of natural philosophy which concerns the soul or spirit: all these strangely commixed and confused: but being examined, it seems to me rather a deprecation of other sciences, advanced and exalted unto some height of terms, than any thing solid or substantial of itself.

NEVERTHELESS, I cannot be ignorant of the distinction which is current, that the same things are handled but in several respects. As for example, that logic considers of many things as they are in notion; and this philosophy, as they are in nature; the one in appearance, the other in existence: but I find this difference better made than pursued. For if they had considered quantity, similitude, diversity, and the rest of those external characters of things, as philosophers, and in nature; their enquiries must of course have been of a very different kind than they are.

FOR

For does any of them, in handling quantity, speak of the force of union, how, and how far it multiplies virtue? Does any give the reason, why some things in nature are so common, and in so great mass, and others so rare, and in so small quantity? Does any, in handling similitude and diversity, assign the cause why iron should not move to iron, which is more like, but move to the load-stone, which is less so? Why, in all diversities of things, there should be certain participles in nature, which are almost ambiguous, to which kind they should be referred? But there is a mere and deep silence touching the nature and operation of these common adjuncts of things, as in nature; and only a resuming and repeating of the force and use of them in speech or argument.

DIVINE PHILOSOPHY.

DIVINE philosophy, or natural theology, is that knowledge or rudiment of knowledge concerning God, which may be obtained by the

the contemplation of his creatures ; which knowledge may be truly termed divine, in respect of the object ; and natural, in respect of the light.

THE bounds of this knowledge are, that it suffices to convince atheism, but not to inform religion : and therefore there was never miracle wrought by God to convert an atheist, because the light of nature might have led him to confess a God : but miracles have been wrought to convert idolaters and the superstitious, because no light of nature extends to declare the will and true worship of God.

FOR as all works do shew forth the power and skill of the workman, and not his image, so it is of the works of God, which shew the omnipotence and wisdom of the maker, but not his image : and therefore therein the heathen opinion differs from the sacred truth ; for they supposed the world to be the image of God, and man to be an extract or compendious image of the world : but the scriptures never vouchsafe to attribute to the world that honour, as to be the image of
God,

God, but only the work of his hands: neither do they speak of any other image of God, but man: wherefore by the contemplation of nature, to induce and enforce the acknowledgment of God, and to demonstrate his power, providence, and goodness, is an excellent argument, and has been well handled by many.

BUT, on the other side, out of the contemplation of nature, or ground of human knowledge, to induce any verity or persuasion concerning the points of faith, is in my judgment not safe: *Da fidei, quae fidei sunt.* For the heathens themselves conclude as much, in that excellent and divine fable of the golden chain: “That men and gods
“were not able to draw *Jupiter* down to the
“earth; but, on the contrary, *Jupiter* was
“able to draw them up to heaven.”

So as we ought not to attempt to draw down or submit the mysteries of God to our reason; but on the contrary, to raise and advance our reason to the divine truth: so as in this part of knowledge, touching divine philosophy, I am so far from noting any defi-

deficiency, that I rather note an excess; whereunto I have digressed, because of the extreme prejudice which both religion and philosophy have received, and may receive, by being commixed together; as that which undoubtedly will make an heretical religion, and an imaginary and fabulous philosophy.

OTHERWISE it is of the nature of angels and spirits, which is an appendix of theology, both divine and natural; and is neither inscrutable nor interdicted: for although the scripture saith, "Let no man deceive you in sublime discourse touching the worship of angels, pressing into that he knoweth not, &c." yet, notwithstanding if you observe well that precept, it may appear thereby, that there are two things only forbidden, adoration, and a fantastical opinion of them, either to extol them farther than appertains to the degree of a creature, or to extol a man's knowledge of them farther than he hath ground. But the sober and grounded enquiry, which may arise out of the passages of holy scriptures, or out of the gradations of nature, is not restrained. So of degenerate and revolted spirits,

spirits, the conversing with them, or the employment of them is prohibited, much more any veneration towards them. But the contemplation or science of their nature, their power, their illusions, either by scripture or reason, is a part of spiritual wisdom : for so the Apostle saith ; “ We are not ignorant of his stratagems.” And it is no more unlawful to enquire the nature of evil spirits, than to enquire the force of poisons in nature, or the nature of sin and vice in morality. But this part, touching angels and spirits, I cannot note as deficient, for many have occupied themselves in it : I may rather challenge it, in many of the writers thereof, as fabulous and fantastical.

LEAVING therefore divine philosophy, or natural theology, not divinity, or inspired theology, which we reserve for the last of all, as the haven and sabbath of all man’s contemplations, we will now proceed to

NATURAL PHILOSOPHY.

If it be true what *Democritus* said, “ That
 “ the truth of nature lieth hid in certain
 “ deep

“ deep mines and caves :” and if it be true likewise that the alchymists do so much inculcate ; “ That *Vulcan* is a second nature, “ and imitates that dexterously and compendiously, which nature works by gradation and length of time ;” it were good to divide natural philosophy into the mine and the furnace, and to make two professions or occupations of natural philosophers, some to be pioneers, and some smiths ; some to dig, and some to refine and hammer : and surely I do best allow of a division of that kind, though in more familiar and scholastic terms ; namely, that these be the two parts of natural philosophy, the inquisition of causes, and the production of effects speculative and operative ; natural science, and natural prudence.

For as in civil matters there is a wisdom of discourse, and a wisdom of direction ; so is it in natural. And here I will make a request, that for the latter, or at least for a part thereof, I may revive and redintegrate the misapplied and abused name of natural magic, which in the true sense is but natural wisdom, or natural prudence ; taken accord-

according to the ancient acceptation, purged from vanity and superstition.

Now although it be true, and I know it well, that there is an intercourse between causes and effects, so as both these knowledges, speculative and operative, have a great connection between themselves; yet, because all true and fruitful natural philosophy has a double scale or ladder, ascendent and descendent; ascending from experiments to the invention of causes; and descending from causes to the invention of new experiments; therefore I judge it most requisite, that these two parts be severally considered.

NATURAL science, or theory, is divided into phisic and metaphysic; wherein I desire it may be conceived, that I use the word metaphysic in a different sense from that which is received; and, in like manner, I doubt not but it will easily appear to men of judgment, that in this and other particulars, wheresoever my conception and notion may differ from the ancient, yet I am studious to keep the ancient terms.

FOR hoping to deliver myself from any mistake, by the order and perspicuous expressing of what I propound; I am otherwise zealous and affectionate to recede as little from antiquity, either in terms or opinions, as may stand with truth, and the proficiency of knowledge.

PHYSIC, taking it according to the derivation, and not according to our idiom for medicine, is situate in a middle term, or distance, between natural history and metaphysic: for natural history describes the variety of things, physic the causes, but variable or respective causes; and metaphysic, the fixed and constant causes.

*Limus ut hic durefcit, et haec ut cera liquefcit,
Uno eodemque igne.*

FIRE is the cause of induration but respective to clay: fire is the cause of colliquation but respective to wax: but fire is no constant cause either of induration or colliquation; so then the physical causes are but the efficient and the matter.

PHYSIC

PHYSIC hath three parts; whereof two respect nature united or collected, the third contemplates nature diffused or distributed.

NATURE is collected either into one entire total, or else into the same principles or seeds. So as the first doctrine is touching the contexture or configuration of things; as *de mundo, de universitate rerum*.

THE second is the doctrine concerning the principles or originals of things.

THE third is the doctrine concerning all variety and particularity of things: whether it be of the different substances, or their different qualities and natures: whereof there needs no enumeration, this part being but as a gloss or paraphrase, that attends upon the text of natural history.

OF these three I cannot report any as deficient. In what truth or perfection they are handled, I make not now any judgment: but they are parts of knowledge not deserted by the labour of man.

FOR METAPHYSIC, we assign unto it the enquiry of formal and final causes; which assignation, as to the former of them, may seem to be nugatory and void, because of the received and inveterate opinion, that the inquisition of man is not competent to find out essential forms, or true differences: of which opinion we will take this hold, that the invention of forms is, of all other parts of knowledge, the most worthy to be sought, if it can possibly be found.

As for the possibility, they are bad discoverers that think there is no land, when they can see nothing but sea.

BUT it is manifest, that *Plato*, in his opinion of ideas, as one that had a wit of elevation situate as upon a cliff, did descry, "That forms were the true object of knowledge;" but lost the real fruit of his opinion, by considering of forms as absolutely abstracted from matter, and not confined and determined by matter; and so turning his opinion upon theology, wherewith all his natural philosophy is infected.

BUT

BUT if any man shall keep a continual watchful and severe eye upon action, operation, and the use of knowledge, he may advise and take notice what are the forms, the disclosures whereof are fruitful and important to the state of man. For as to the forms of substances, man only excepted, of whom it is said, *Formavit hominem de limo terrae, et spiravit in faciem ejus spiraculum vitae*; and not as of all other creatures; *Producant aquae, producat terra*; the forms of substances, I say, as they are now multiplied, by compounding and transplanting, are so perplexed, as not to be investigated; no more than it were either possible, or to the purpose, to seek in gross the forms of those sounds that make words, which, by composition and transposition of letters, are infinite.

BUT, on the other side, to enquire the form of those sounds or voices which make simple letters, is easily comprehended; and, being known, induces and manifests the forms of all words, which consist and are compounded of them. In the same manner to enquire the form of a lion, of an oak, of

gold; nay, of water, of air, is a vain pursuit: but to enquire the forms of sense, of voluntary motion, of vegetation, of colours, of gravity and levity, of density, of tenuity, of heat, of cold, and all other natures and qualities, which, like an alphabet, are not many, and of which the essences, upheld by matter, of all creatures do consist: to enquire, I say, the true form of these, is that part of metaphysic which we now define.

Nor but that physic doth make enquiry, and take consideration of the same natures: but how? Only as to the material and efficient causes of them, and not as to the forms. For example: if the cause of whiteness in snow or froth be enquired, and it be rendered thus; that the subtile intermixture of air and water is the cause, it is well rendered; but, nevertheless, is this the form of whiteness? No; but it is the efficient, which is ever but *vehiculum formas*.

WE come now to that knowledge whereunto the ancient oracle directs us, which is the knowledge of ourselves; that deserves the more accurate handling, by how much
it

it touches us more nearly. This knowledge, as it is the end and term of natural philosophy in the intention of man, so, notwithstanding, it is but a portion of natural philosophy in the continent of nature; and generally let this be a rule, that all partitions of knowledge be accepted rather for lines and veins, than for sections and separations; and that the continuance and entireness of knowledge be preserved. For the contrary hereof has made particular sciences to become barren, shallow, and erroneous, while they have not been nourished and maintained from the common fountain. So we see *Cicero* the Orator complained of *Socrates* and his school, that he was the first that separated philosophy and rhetoric, whereupon rhetoric became an empty and verbal art. So we may see the opinion of *Copernicus* touching the rotation of the earth, which astronomy itself cannot correct, because it is not repugnant to any of the phænomena, yet natural philosophy may correct. We see also that the science of medicine, if it be destitute and forsaken by natural philosophy, is not much better than an empirical practice.

HUMAN PHILOSOPHY.

HUMAN philosophy, or humanity, hath two parts: the one considers man segregate or distributively: the other congregate, or in society. So that human philosophy is either simple and particular, or conjugate and civil. Humanity particularly consists of the same parts of which man consists: that is, of knowledge which respects the body, and of knowledge that respects the mind: but before we distribute so far, it is good to constitute. For I take the consideration in general, and at large, of human nature, to be fit to be emancipated and made a knowledge by itself; not so much with regard to those delightful and elegant discourses which have been made of the dignity of man, of his miseries, of his state and life, and the like adjuncts of his common and undivided nature; but chiefly in regard to the knowledge concerning the sympathies and concordances between the mind and body, which being mixed, cannot be properly assigned to the sciences of either.

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THIS knowledge has two branches: for as all leagues and amities consist of mutual intelligence and mutual offices, so this league of mind and body has these two parts, how the one discloses the other, and how the one works upon the other, discovery and impression.

THE former of these has begotten two arts, both of prediction or prenotion; whereof the one is honoured with the enquiry of *Aristotle*, and the other of *Hippocrates*. And although they have of later time been used to be coupled with superstition and fantastic arts, yet, being purged and restored to their true state, they have both of them a solid ground in nature, and a profitable use in life. The first is physiognomy, which discovers the disposition of the mind by the lineaments of the body: the second is the exposition of natural dreams, which discovers the state of the body by the imaginations of the mind. In the former of these I note a deficiency; for *Aristotle* has very ingeniously and diligently handled the features, but not the gestures of the body, which are no less comprehensible by art,
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and of greater use and advantage. For the lineaments of the body disclose the disposition and inclination of the mind in general: but the motion of the countenance and parts do not only so, but do further disclose the present humour and state of the mind and will. For, as your majesty saith most aptly and elegantly, “As the tongue speaketh to the ear, so the gesture speaketh to the eye.” And therefore a number of subtle persons, whose eyes dwell upon the faces and fashions of men, do well know the advantage of this observation, as being most part of their ability: neither can it be denied, but that it is a great discovery of dissimulation, and a great direction in business.

THE latter branch, touching impression, has not been collected into art, but has been handled dispersedly: and it has the same relation or analogy as the former. For the consideration is double: “Either how; and how far the humours and effects of the body do alter or work upon the mind;” or, how, “and how far the passions or apprehensions of the mind do alter or work upon the body.” The former of these has been enquired and considered as a part and appendix of medicine,

cine, but much more as a part of religion or superstition: for the physician prescribeth cures of the mind in frenzies and melancholy passions, and pretends also to exhibit medicines to exhilarate the mind, to confirm the courage, to clarify the wits, to corroborate the memory, and the like: but the scruples and superstitions of diet, and other regimen of the body, in the sect of the *Pythagoreans*, in the heresy of the *Manicheans*, and in the law of *Mahomet*, do exceed: so likewise the ordinances in the ceremonial law, interdicting the eating of the blood and fat, distinguishing between beasts clean and unclean for meat, are many and strict. Nay, the faith itself, being clear and serene from all clouds of ceremony, yet retains the use of fastings, abstinences, and other macerations and humiliations of the body, as things real and not figurative. The root and life of all which prescripts are, beside the ceremony, the consideration of that dependency, which the affections of the mind are submitted unto, upon the state and disposition of the body. And if any man of weak judgment conceives, that this suffering of the mind from the body does either question
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the immortality, or derogate from the sovereignty of the soul, he may be taught, in easy instances, that the infant in the mother's womb is compatible with the mother, and yet separable: and the most absolute monarch is sometimes led by his servants, and yet without subjection. As for the reciprocal knowledge, which is the operation of the conceits and passions of the mind upon the body, we see all wise physicians, in the prescriptions of their regimens to their patients, do ever consider *accidentia animi*, as of great force to further or hinder remedies or recoveries; and more especially it is an enquiry of great depth and worth concerning imagination, how, and how far it alters the body proper of the imaginant; for although it has a manifest power to hurt, it follows not it has the same degree of power to help; no more than a man can conclude, that because there be pestilent airs, able suddenly to kill a man in health, therefore there should be sovereign airs, able suddenly to cure a man in sickness. But the inquisition of this part is of great use, though it needs, as *Socrates* said, "a Delian diver;" being difficult and profound. But unto all this knowledge,

ledge, *de communi vinculo*, of the concordances between the mind and the body, that part of enquiry is most necessary which considers the seats and domiciles, which the several faculties of the mind take and occupy in the organs of the body: which knowledge has been attempted and is controverted, and deserves a much better enquiry. For the opinion of *Plato*, who placed the understanding in the brain, animosity (which he did unfitly call anger, having a greater mixture with pride) in the heart, and concupiscence or sensuality in the liver, deserves not to be despised, but much less to be allowed.

THE knowledge that concerns man's body is divided, as the good of man's body is divided, unto which it refers. The good of man's body is of four kinds; health, beauty, strength and pleasure: so the knowledge is, medicine, or art of cure; art of decoration, which is called cosmetic; art of activity, which is called athletic; and art voluptuary, which *Tacitus* truly calls *eruditus luxus*. This subject of man's body is, of all other things in nature, most susceptible of remedy; but then that remedy is most susceptible of error. For the same subtilty of the subject
causes

causes large possibility and easy failing; and therefore the enquiry ought to be the more exact.

To speak therefore of medicine, and to resume that we have said, ascending a little higher; the ancient opinion that man was *microcosmus*, an abstract or model of the world, has been fantastically strained by *Paracelsus*, and the alchymists, as if there were to be found in man's body certain correspondences and parallels, which should have respect to all varieties of things, as stars, planets, minerals, which are extant in the great world. But thus much is evidently true, that of all substances which nature has produced, man's body is the most extremely compounded: for we see herbs and plants are nourished by earth and water; beasts, for the most part, by herbs and fruits; man by the flesh of beasts, birds, fishes, herbs, grains, fruits, water, and the manifold alterations, dressings, and preparations of these several bodies, before they come to be his food and aliment. Add hereunto, that beasts have a more simple order of life, and less change of affections to work upon their bodies; where-

as man in his mansion, sleep, exercise, and passions, has infinite variations: and it cannot be denied, but that the body of man, of all other things, is of the most compounded mass. The soul, on the other side, is the most simple of substances, as is well expressed:

————— *Purumque reliquit,
Aethereum sensum, atque aurai simplicis ignem.*

So that it is no marvel though the soul so placed enjoy no rest, if that principle be true, that *Motus rerum est rapidus extra locum, placidus in loco*. But to the purpose: this variable composition of man's body has made it as an instrument easy to distemper; and therefore the poets did well to conjoin music and medicine in *Apollo*, because the office of medicine is but to tune this curious harp of man's body, and to reduce it to harmony. So then, the subject being so variable, has made the art, by consequence, more conjectural; which has made so much the more place to be left for imposture. For almost all other arts and sciences are judged by acts or master-pieces, as they may be termed,

termed, and not by the successes and events. The lawyer is judged by the virtue of his pleading, and not by the issue of the cause. The master of the ship is judged by the directing his course right, and not by the fortune of the voyage. But the physician, and perhaps the politician, have no particular acts demonstrative of their ability, but are mostly judged by the event; which is ever but as it is taken: for who can tell if a patient die or recover, or if a state be preserved or ruined, whether it be art or accident? And therefore many times the impostor is prized, and the man of virtue taxed.

MEDICINE is a science which has been, as we have said, more professed than laboured, and yet more laboured than advanced: the labour having been, in my judgment, rather in circle than in progression. For I find much repetition, but small addition. It considers the causes of diseases, with the occasions or impulsions; the diseases themselves, with the accidents; and the cures, with the preservations.

IN the consideration of the cures of diseases I find a deficiency in the receipts of propriety, respecting the particular cures of diseases: for the physicians have frustrated the fruit of tradition and experience by their magisterially, adding and taking out, and changing *quid pro quo*, in their receipts, at their pleasure; so commanding over the medicine, as the medicine cannot command over the disease: for, except it be treacle and mithridatum, and of late diascordium, and a few more, they tie themselves to no receipts severely and religiously: for as to the confections of sale which are in the shops, they are for readiness, and not for propriety; for they are upon general intentions of purging, opening, comforting, altering, and not much appropriated to particular diseases; and this is the cause why empirics and old women are more happy many times in their cures, than learned physicians, because they are more religious in holding their medicines. Therefore, here is the deficiency which I find; that physicians have not, partly out of their own practice, partly out of their constant probations reported in books, and partly out of the traditions of empirics, set down

and delivered over certain experimental medicines, for the cure of particular diseases, besides their own conjectural and magisterial descriptions. For as they were the men of the best composition in the state of *Rome*, which either being consuls inclined to the people, or tribunes inclined to the senate: so in the matter we now handle, they are the best physicians who, being learned, incline to the traditions of experience; or, being empirics, incline to the methods of learning.

IN preparation of medicines I find it strange, (especially considering how mineral medicines have been extolled, and that they are safer for the outward than inward parts) that no man hath sought to make an imitation by art of natural baths, and medicinal fountains; which, nevertheless, are confessed to receive their virtues from minerals; and not only so, but discerned and distinguished from what particular mineral they receive tincture, as sulphur, vitriol, steel, or the like; which nature, if it may be reduced to composition of art, both the variety of them
will

will be increased, and the temper of them will be more commanded.

FOR COSMETIC, it hath parts civil, and parts effeminate: for cleanness of body was ever esteemed to proceed from a due reverence to God, to society, and to ourselves. As for artificial decoration, it is well worthy of the deficiencies which it has; being neither fine enough to deceive, nor handsome to use, nor wholesome to please.

FOR ATHLETIC, I take the subject of it largely: that is to say, for any point of ability, whereunto the body of man may be brought, whether it be of activity, or of patience; whereof activity has two parts, strength and swiftness: and patience likewise has two parts, hardness against wants and extremities, and endurance of pain or torment; whereof we see the practices in tumblers, in savages, and in those that suffer punishment: nay, if there be any other faculty which falls not within any of the former divisions, as in those that dive, who obtain a strange power of containing respiration, and the like, I refer it to this part. Of these

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things

things the practices are known, but the philosophy that concerns them is not much enquired; the rather I think, because they are supposed to be obtained, either by an aptness of nature which cannot be taught, or only by continual custom, which is soon prescribed; which though it be too true, yet I forbear to note any deficiencies; for the *Olympian* games are down long since, and the mediocrity of these things is for use: as for the excellency of them, it serves, for the most part, but for mercenary ostentation.

For Arts of sensual pleasure, the chief deficiency in them is of laws to repress them. For as it has been well observed, that the arts which flourish in times while virtue is in growth, are military; and while virtue is in state, are liberal; but when in declination, are voluptuary: so I doubt, that this age of the world is somewhat upon the descent of the wheel. With arts voluptuary I couple practices jocular; for the deceiving of the senses is one of the pleasures of the senses. As for games of recreation, I hold them to belong to civil life and education. And thus much of that particular human
philo-

philosophy which concerns the body, which is but the tabernacle of the mind.

FOR human knowledge, which concerns the mind, it has two parts; one that enquires the substance or nature of the soul or mind, the other that enquires the faculties or functions thereof.

UNTO the first of these, the considerations of the origin of the soul, whether it be native or adventive, and how far it is exempted from laws of matter, the immortality thereof, and many other points which belong to it, and that have been not more laboriously enquired, than variously reported: so as the traveller therein taken seems to have been rather in a maze than in a way. But although I am of opinion, that this knowledge may be more really and soundly enquired even in nature than it has been; yet I hold, that in the end it must be bounded by religion, or else it will be subject to deceit and delusion: for as the substance of the soul in the creation was not extracted out of the mass of heaven and earth, by the benediction of a *producat*, but was immediately

inspired from God; so it is not possible that it should be, otherwise than by accident, subject to the laws of heaven and earth, which are the subject of philosophy; and therefore the true knowledge of the nature and state of the soul must come by the same inspiration that gave the substance.

THE knowledge which respects the faculties of the mind of man, is of two kinds; the one respecting his understanding and reason, and the other his will, appetite, and affection; whereof the former produces position or decree, the latter action or execution. It is true, that the imagination is an agent or *nuncius* in both provinces, both the judicial, and the ministerial. For sense sends over to imagination before reason has judged, and reason sends over to imagination before the decree can be acted: for imagination ever precedes voluntary motion, saving that this *Janus* of imagination has different faces; for the face towards reason has the print of truth, but the face towards action has the print of good; which nevertheless are faces:

Quales decet esse sororum.

NEITHER is the imagination simply and only a messenger, but is invested with, or at least usurps no small authority in itself, besides the duty of the message. For it was well said by *Aristotle*; “That the mind hath
“over the body that commandment which
“the lord hath over a bondman; but that
“reason hath over the imagination that
“commandment which a magistrate hath
“over a free citizen;” who may come also to rule in his turn. For we see, that in matters of faith and religion we raise our imagination above our reason, which is the cause why religion ever sought access to the mind, by similitudes, types, parables, visions, and dreams. Again, in all persuasions that are wrought by eloquence, and other impressions of like nature, which paint and disguise the true appearance of things, the chief recommendation to reason is from the imagination.

THE part of human philosophy which is rational, of all knowledge, to most wits, is the least delightful, and seems but a net of subtilty and spinosity: for as it was truly said, that knowledge is *pabulum animi*; so in

the nature of mens appetite to this food, most men are of the taste and stomach of the *Israelites* in the desert, who would fain have returned *ad ollas carnum*, and were weary of manna: which, though it were celestial, yet seemed less nutritive and comfortable: so generally men taste well knowledge that is drenched in flesh and blood, civil history, morality, policy, about which mens affections, praises, fortunes, do turn and are conversant; but this same *lumen fictum* doth parch and offend most mens watery and soft natures. But to speak truly of things as they are in worth, rational knowledge is the key of all other arts; for as *Aristotle* says aptly and elegantly, “ That “ the hand is the instrument of instruments, “ and the mind is the form of forms:” so these are truly said to be the art of arts: neither do they only direct, but likewise confirm and strengthen: even as the habit of shooting does not only enable to shoot a nearer shot, but also to draw a stronger bow,

O N M E M O R Y.

WE will divide the art of retaining, or of the custody of knowledge, into two doctrines: that is, the doctrine touching the helps of memory, and that which respects the memory itself. A help to memory is writing, no doubt; and it must by all means be noted, that memory, without this support, would be too weak for more prolix and accurate matters: therefore there can hardly be a thing more useful to memory, than a substantial and learned digest of common places. Yet I am not ignorant, that the transferring those things we read or learn to common places, is reckoned by some as a prejudice to learning, retarding the course of it, and encouraging the memory in idleness. Nevertheless, because it is but a counterfeit business, to be pregnant and forward in learning, unless you are withal solid, and every way furnished: I hold the diligence and pains in collecting common places, to be a matter of very great use and certainty in study;

study; as that which furnishes plenty to invention, and contracts the eye of the judgment to a point. It is true, however, that of the methods and systems of common-places, I have chanced to see hitherto, there is none of any worth; for in their titles they carry the face of a school, rather than of the world; making vulgar and pedantic divisions, and not such as any way penetrate the marrow and pith of things.

As for memory itself, that seems hitherto to have been enquired into, without method or accuracy. An art indeed there is extant of it: but we are certain, that there may be had both better precepts, for the confirming and increasing memory, than that art comprehends; and a better practice of that very art may be contrived, than that what is received. Yet I make no doubt, but if a man has a mind to abuse this art to ostentation, some wonderful and prodigious matters may be performed by it: nevertheless, for use, as it is managed, it is but barren. However, I do not tax it with destroying and over-charging the natural memory, which is commonly objected; but that it is not
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dexterously applied to lend assistance to memory in business and serious affairs. And we have learned, perhaps, from our civil course of life, not to value things that make ostentation of art, but are of no use. For to repeat instantly a vast number of names or words, upon once hearing, in the same order they were delivered; or to pour forth abundance of verses upon any argument *extempore*; or to touch every thing that occurs with some satyrical simile; or to turn all things serious into a jest; or to elude any thing by contradiction or cavil, and the like; whereof in the faculties of the mind there is a great store; and which by wit and practice may be carried even to a miracle: all these and such like things we make no more account of, than of the agilities and tricks of rope-dancers, tumblers, and jugglers: for they are, in a manner, the same thing; seeing these abuse the powers of the body, and those the powers of the mind; and perchance they may have somewhat of wonder in them, but little or no utility.

As for the art of memory, that is built
but upon two intentions, prenotation and emblem :

blem: we call prenotion a certain limit of vague investigation; for when a man endeavours to recall any thing to memory, if he has no prenotion, or preconception of that he seeks, he seeks, indeed, and takes abundance of pains, and runs up and down this way and that way, as in a maze of infinity: but if he has any certain prenotion, immediately the infinity is cut off, and the memory beats nearer home; like the hunting of a fallow-deer within a park. Therefore it is evident, that method helps memory; for there is a secret prenotion, that the thing sought must have a congruity with method. So verses are more easily got by heart than prose. For if a man hesitates at a word, prenotion suggests, that it must be such a word as will stand in the verse: and this prenotion is the first part of artificial memory: for in memory artificial we have places digested and provided before-hand. Images we make *extempore*, according to the present occasion: but there is a secret prenotion, that the image must be such as has some resemblance with the place; this being the thing that excites the memory, and in some sort makes way for it to the thing we are in search of.

EMBLEM

EMBLEM reduces conceits intellectual, to images sensible: these strike the memory more forcibly, and are more easily imprinted there, than things intellectual. So we see that even the memory of brutes is stirred up by a sensible object, but not by an intellectual: therefore you will more easily retain the image of a huntsman pursuing a hare; or of an apothecary setting in order his bottles; or of a pedant making a speech; or of a boy reciting verses by heart; or of a droll acting upon a stage; than the bare notions of invention, disposition, elocution, memory, or action. There are other things also pertaining to the help of memory; but the art now in use consists of the two things now premised. And to pursue the particular defects of arts would be to depart from our proposed method: wherefore let thus much suffice for the art of retaining, or of custody.

O N R H E T O R I C.

RHETORIC, or oratory, is a science both excellent in itself, and by writers exquisitely improved. Yet eloquence, if a man considers the thing truly is, without doubt, inferior to wisdom. For we see how much this surpasses that, in those words of God to *Moses*, when he refused the charge assigned him for want of elocution: “ There is
“ *Aaron*, he shall be to thee instead of a
“ mouth; and thou shalt be to him instead
“ of God.” Yet in profit and popular esteem, wisdom gives place to eloquence. For so says *Solomon*: “ The wise in heart shall be
“ called prudent: but the sweetness of the
“ lips shall find greater things.” Prov. xvi.
21. Signifying not obscurely, that profoundness of wisdom will help a man to a name, or admiration; but that it is eloquence which prevails most in business, and in common life. And as to the labouring of this art, the emulation of *Aristotle*, with the rhetoricians of his time; and the earnest and
vehement

vehement diligence of *Cicero*, endeavouring with all might to ennoble it, joined with long experience, hath made them in their books, on this subject, exceed themselves. Again, those most excellent examples of eloquence in the orations of *Demosthenes* and *Cicero*, added to the acuteness of the precepts, have doubled the progression in this art; and therefore the deficiencies which we find in it will rather be in some collections, which may as hand-maids attend, than in the rules or use of the art itself.

NOTWITHSTANDING, to stir the earth a little about the roots of this science, as our fashion is, surely rhetoric is subservient to the imagination, as logic is to the understanding. And the office and duty of rhetoric, if a man enters any thing deep into the matter, is no other, than to apply and commend the dictates of reason to the imagination, for the better moving of the appetite and will. For we see reason is attacked and disturbed in her administration by three means; either by the fallacy of sophisms, which belongs to logic; or by the enchantment of words, which pertains to rhetoric; or by the violence

lence of passions, which pertains to morality. For as in negociation with others a man uses to be overcome and prevailed upon, either by cunning, by importunity, or by vehemence : so also in that inward negociation, which we exercise with ourselves, we are either undermined by the fallacies of arguments ; or solicited and disquieted by the assiduity and variety of impressions ; or shaken and transported by the assault of passions. Neither is the nature of man so unfortunate, as that those powers and arts should have force to dethrone reason, and not to strengthen and establish it ; nay, much more do they conduce to this effect, than to the contrary. For the end of logic is, to teach a form of arguments, to secure reason, and not to entrap it. Likewise the end of morality is to compose the affections in such manner, that they may fight for reason, and not invade it. Lastly, the end of rhetoric is to fill the imagination with objects and ideas, to second reason, not to oppress it : for the abuses of an art come in but obliquely, for caution, not for use.

It was therefore great injustice in *Plato*, though springing out of a just hatred to the rhetoricians of his time, to place rhetoric amongst the arts voluptuary: resembling it to cookery, which did spoil wholesome meats, and render unwholesome pleasant, by variety of sauces. For we see that speech is much more conversant in adorning that which is good, than in colouring that which is evil; for there is no man but speaks more honestly than he either thinks or acts: and it was excellently noted by *Thucydides* in *Cleon*, "That because he used to hold on the bad side in causes of state, therefore he was ever inveighing against eloquence and good speech;" as knowing full well, that no man can speak fair of courses sordid and base; but can of honest ones with the greatest ease. And therefore as *Plato* said elegantly: "That virtue, if she could be seen, would move great love and affection:" so, seeing she cannot be shewed to the sense, by corporeal shape, the next degree is, to shew her to imagination in lively representation: for to shew her to reason, only in subtilty of argument, was a thing ever derided in *Chrysippus*, and many of the *Stoics*, who

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thought to obtrude virtue upon men by sharp disputations and conclusions, which have no sympathy with the imagination and will of man.

AGAIN, if the affections in themselves were pliant and obedient to reason, it is true, there would be no great use of persuasion and insinuation to procure access to the mind; for it would be sufficient if things were nakedly and simply proposed and proved: but on the contrary, the affections make such mutinies and seditions, according to that:

*Video meliora proboque,
Deteriora sequor:*

That reason would be entirely led away into servitude and captivity, if the persuasions of eloquence did not win the imagination from taking part with the affections, and contract a confederacy between reason and imagination against the affections; for it must be noted, that the affections of themselves are ever carried to good apparent, and in this respect have somewhat in common with reason; but herein they differ: That the

the affections behold chiefly good present; but reason, looking forward, beholds also that which is future, and good on the whole. And therefore, as things present more forcibly fill the imagination, reason commonly yields, and is vanquished: but when once eloquence and persuasion have made things future and remote appear as actually present, then, upon the revolt of the imagination to the side of reason, reason prevails.

WE conclude therefore, that rhetoric can be no more charged with the colouring of the worse part, than logic with sophistry, or morality with vice. For who does not know, that the doctrine of contraries are the same, though the use be opposite? Again, logic differs from rhetoric, not only in this, that the former, by a common simile, is like the fist; the latter like the palm; that is, the one handles things closely, the other at large: but much more in this, that logic considers reason in its natural truth; rhetoric, as it is planted in popular opinions and manners: and therefore *Aristotle* doth wisely place rhetoric between logic on the one side, and moral or civil knowledge on the other,

as participating of both: for the proofs and demonstrations of logic are toward all men indifferent and the same; but the proofs and persuasions of rhetoric ought to vary according to the auditors; that a man like a musician, accommodating himself to different ears, may become,

Orpheus in Silvis, inter Delphinas Arion.

WHICH kind of application and variance of speech, if a man desires the perfection and height of it, ought to be so far extended, that if a man were to speak the same thing to several persons, he should speak to them all respectively, and several ways. Though this politic part of eloquence in private speech it is easy for the greatest orators to want; whilst by observing their well graced forms of speech, they lose that volubility of application, and characters of discourse, which in discretion they should use towards particular persons. Certainly it would not be amiss to recommend this, of which we are speaking, to better enquiry, and to call it, “The wisdom of private speech;” and to refer it to deficiencies: a thing surely, which the more seriously a man shall think on, the more

more highly he shall value. And whether this should be placed here, or in that part which concerns policy, is a matter of no great consequence.

AND now let us descend to the deficiencies of this art, which, as I said, are of such a nature, that they may be esteemed rather as appendages, than portions of the art itself; and pertain all to the promptuary part, for the furniture of speech, and readiness of invention.

Colores boni et mali, simplices et comparati.

FIRST then, I do not find any one that has well pursued, or supplied the wisdom and diligence too of *Aristotle*. He began to make a collection of the popular signs or colours of good and evil, both simple and comparative, which are as the sophisms of rhetoric. They are of excellent use, especially as to business, and the wisdom of private speech: but the labour of *Aristotle*, concerning these colours, is three ways deficient: first, that he recites but

few of many; fecondly, that their refutations are not annexed; thirdly, that he feems to have conceived but a part of the ufe of them; for their ufe is not more in probation, than in affecting and moving. For many forms of fpeech, which are equal in fignification, are yet different in impreffion. For that which is fharp, pierces far more effectually than that which is blunt, though the ftrength of the percuffion be the fame: for there is no man but will be more raifed by hearing it faid, “ Your enemies will triumph “ ftangely at this:”

Hoc Ithacus velit, et magno mercentur Atridæ:

Than by hearing it barely faid, “ This will “ prejudice your affairs.” Wherefore thefe fharp-edged and quick-pointed fpeeches are by no means to be neglected.

SECONDLY, I refume alfo that which I mentioned before, touching provision or preparatory ftore, for the furniture of fpeech, and readinefs of invention, which appears to be of two forts: the one in refemblance
to

to a shop of pieces unmade up; the other to a shop of things ready made up, both to be applied to that which is frequent and most in request: the former of these I will call *antitheta*, and the latter *formulae*.

ANTITHETA are *theses* argued *pro et contra*, wherein men may be more large and laborious; but, in such as are able to do it, to avoid prolixity of entry, I wish the seeds of the several arguments to be cast up into some brief and acute sentences, not to be cited; but to be as scanes or bottoms of thread, to be unwinded at large when they come to be used; supplying authorities and examples by reference.

PRO VERBIS LEGIS.

*Non est interpretatio, sed divinatio, quae recedit à litera.
Cum receditur à litera iudex transit in legislatorem.*

PRO SENTENTIA LEGIS.

*Ex omnibus verbis est eliciendus sensus, qui interpretatur
singula.*

FORMULAE are but decent and apt passages or conveyances of speech, which may serve

indifferently for different subjects; as of preface, conclusion, digression, transition, excusation, &c. For as in buildings there is great pleasure and use in the well casting of the stair-cases, entries, doors, windows, and the like: so in speech, the conveyances and passages are of special ornament and effect.

A CONCLUSION IN A DELIBERATIVE.

So may we redeem the faults passed, and prevent the inconveniences in future.

O N C R I T I C A L
A N D
P E D A N T I C A L K N O W L E D G E.

THERE remains two general appendages touching the tradition of knowledge: the one critical; the other pedantical. For as the principal part of tradition of knowledge consists in writing of books; so the relative part thereof consists in reading of books. Now reading is governed and directed by masters and teachers, or perfected by every man's particular industry: and to this purpose serve the two sorts of knowledge mentioned, whereunto appertain incidently those considerations.

To the critical part appertain, first, an exact correction, and true edition of approved authors; whereby both the honour of authors themselves is vindicated, and a light given
to

to the studious: in which, however, the rash diligence of some men has done great prejudice to studies. For it is the manner of many critics, when they meet with a passage they do not understand presently, to presume it a fault in the copy: as the priest that, where he found it written of St. Paul, *Demissus est per sportam*, mended his book, and made it, *Demissus est per portam*, because *sporta* was an hard word, and out of his reading; and, surely, their errors, though they are not so palpable and ridiculous, yet are of the same kind: as in that passage of *Tacitus*: when a certain colony claimed the privilege of the sanctuary in the senate, *Tacitus* reports, that what they alledged was not favourably received by the emperor and the senate: upon which the ambassadors, distrusting their cause, gave *Titus Vinus* a round sum of money to maintain their suit; and by this means the thing was granted: “Then,” says *Tacitus*, “the dignity and antiquity of “the colony prevailed:” as if the arguments, that seemed light before, received then a new weight by the addition of a bribe. Here a certain critic, none of the meanest, expunges the word *tum*, and instead thereof restores

restores *tantum*. And by this perverse custom of critics, it has come to pass, as one wisely noted, "That the most corrected copies are commonly least correct." And indeed, to speak truth, unless the critics are well skilled in the subjects handled in the books they put out, their diligence is not without danger.

SECONDLY, There belongs to the critical art, the interpretation and exposition of authors, commentaries, scholias, notes, selections, and the like. And in labours of this kind, that contagious disease of critics hath seized many, of passing over most of the obscurer passages, and dwelling and expatiating even to nauseousness upon things that are plain and perspicuous. For the thing intended is not so much to illustrate the author, as that the critic himself, upon every occasion, may shew his manifold learning, and various reading. It were much to be wished, that the writer who handles obscure and noble arguments, would annex his own explications; that neither the text itself may be broken off by digressions or explanations; and that the notes may not depart from the
mind

mind and intention in the writer. Some such thing we suspect of *Theon* upon *Euclid*.

THE third is concerning the times, which, in many cases, give great light to true interpretations.

THE fourth is concerning the syntax and disposition of studies, that men may know in what order or pursuit to read.

FIFTHLY, it belongs to the critical art, from whence also it had its name, to interpose some brief censure and judgment of the authors they publish; and to compare them with other writers that handle the same subjects; to the end that by such a censure students may be both advertised of the choice of books, and come better provided to the perusal of them. And this last part is, as it were, the chair of the critics, which certainly has been ennobled by some great men in our age; greater, surely, in my judgment, than for the model of critics.

FOR pedantical knowledge, it contains that difference of tradition which is proper
for

for youth ; in which point it were soon said, “ Consult the schools of the *Jesuits* :” for nothing that has come into use and practice can be better than they are. However we will, according to our fashion, suggest a few things after the manner of gleaners. We do by all means approve a collegiate education of childhood and youth ; not in private houses, nor under school-masters only. In colleges there is a greater emulation towards their equals ; besides, there is the countenance and aspect of grave men, which very thing contributes to modesty, and fashions tender minds even from the beginning to a pattern : in fine, there are advantages in abundance of a collegiate education.

For the order and manner of discipline, this I would principally advise, that they beware of abridgements, and too great forwarding in learning, which renders wits bold and confident, and makes rather a shew of great proficiency, than effects it.

FURTHERMORE, some indulgence should be given to the liberty of wits ; so that if any one performs the tasks which the discipline

pline of the place requires, and yet steals time for other things to which he is inclined, he may not be restrained,

AGAIN, it may be worth while carefully to consider, which perhaps hitherto has not been noted, that there are two ways, and those as it were diametrically opposite, of training up, exercising, and preparing the genius. The one begins with the easiest things, and by degrees leads to the more difficult: the other, at first, commands and presses the more difficult, that these being mastered he may go through the easier with the more delight. For it is one method to learn to swim with bladders, which hold up, and another to learn to dance with heavy shoes, which press down. And it is not easy to express how much a prudent intermixture of these methods conduces to the advancing the faculties both of mind and body.

ANOTHER consideration is, the application of learning, according to the propriety of the genius; for there is no defect in the intellectual faculties, but seems to have a proper cure contained in some studies: as for example,

example, if a child be giddy, that is, hath not the faculty of attention, the mathematics give a remedy thereunto; for in them, if the mind be diverted for a moment, one is to begin a-new. And as sciences have a propriety towards faculties for cure and help; so faculties or powers have a sympathy towards sciences for excellency or speedy profiting; and therefore it is an enquiry of great wisdom, what kind of wits and natures are most apt and proper for respective sciences.

FURTHERMORE, in the course of teaching, exercises have a mighty stroke to hurt or help: but there is a point here that has been noted by few; which is, that there ought to be not only a wise ordering of exercises, but a wise intermission of them also. For *Cicero* has an excellent observation: "That in exercises it often happens, that men exercise their faults, as well as their faculties:" so that an ill habit is sometimes got at the same time, and insinuates itself together with a good one. Wherefore it is a safer way to intermit exercises, and to repeat them every foot, than incessantly to continue and pursue them.

It

It were long to particularise a number of other considerations of this nature, things but of mean appearance, though of singular efficacy: for as in plants, the hurting or cherishing of them while they are young is a matter of the greatest importance towards their thriving or miscarrying; and as the immense greatness of the *Roman* empire is by some deservedly attributed to the virtue and wisdom of these six kings, who were as tutors or foster-fathers to it in its infancy: so surely, the culture and manuring of minds in youth, has such a forcible, though unseen operation, as hardly any length of time, or contention of labour, can countervail afterwards. And it is not amiss to observe also, that even small and mean faculties, if they fall into great men, or great matters, do work great and important effects. Of this we will set down a memorable example; which we bring the rather, because the *Jesuits* themselves seem not to despise this kind of discipline; and upon sound judgment, in my opinion. And it is a matter which, if it be made a trade, is disreputable; if a part of discipline, excellent. We mean theatrical action; as that which strengthens the memory,

memory, moderates the tone and emphasis of the voice and pronounciation, composes the countenance and carriage to a decorum, gives a good assurance; and, in fine, inures youth to the faces of men. The example shall be from *Tacitus*, of one *Vibulenus*, formerly an actor, but at that time a soldier in the *Pannonian* legions. This fellow, upon the death of *Augustus*, had raised a mutiny, so that *Blæsus*, the lieutenant, committed some of the mutineers: but the soldiers by violence broke open the prisons and rescued them: whereupon *Vibulenus* got to be heard, and began his harangue to the soldiers in this manner: “ To these poor innocent
 “ wretches you have restored indeed light
 “ and life: but who restores life to my brother;
 “ ther; who, my brother to me? That was
 “ sent unto you in message from the *German*
 “ army, to treat of the common cause, and
 “ he hath murdered him this last night by
 “ some of his fencers and ruffians, that he
 “ has about him, ready armed for his executions upon soldiers. Answer *Blæsus*,
 “ where have you thrown his body? The
 “ most mortal enemies do not grudge burial.

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“ When

“ When I have glutted my grief with kissing, and weeping over the corpse, command me also to be murdered ; so that these our fellow-foldiers have leave to bury us, slain for no offence, but for our good meaning, and our true hearts to the legions.” With which speech he put the army into an infinite fury and uproar ; to such a degree, that unless it had soon after appeared that there was no truth in this, and that he never had a brother, the foldiers would have gone near to have laid violent hands upon the lieutenant. But it was mere acting in him, as if he had played a part upon the stage.

ON MORAL KNOWLEDGE.

THE DOCTRINE

OF THE

IMAGE OF GOOD.

WE are now come to moral knowledge, which considers the will of man. Right reason governs the will, good apparent seduces it. The spurs of the will are the affections; her ministers, the organs and voluntary motions. Of this faculty *Solomon* says: "Above all keepings, keep thy heart; for out of it issue the actions of life." Prov. iv. 23. In handling this science, they who have written of it, seem to me to have done, as if a man, who professed to teach writing, should only exhibit fair copies of alphabets, and letters joined, without giving any precepts or directions for the carriage of

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the hand, and framing of the letters: so have they exhibited beautiful copies, and accurate draughts or portraitures of good, virtue, duty, felicity, as the true objects and scopes of man's will and desires; but how to take a just level at these marks, placed by them in the fairest point of view; that is, by what methods and directions the mind may be subdued and framed to become true and conformable to these pursuits; this they pass over altogether, or perform it slightly and unprofitably. For it is not the arguing that moral virtues are in the mind of man by habit, and not by nature; or formally distinguishing, that generous spirits are won by doctrines and persuasions, and the vulgar by reward and punishment; or the ingenious precept, that to rectify the mind of man, it must, like a staff, be bent the contrary way to its inclination; and the like scattered glances and touches, that can excuse the absence of this part.

THE reason of this omission I suppose to be no other, than that hidden rock, on which this, and many other barks of knowledge, have been cast away; which is, that
writers

writers despise to be conversant in ordinary and common matters, which are neither subtle enough for disputation, nor rich enough for ornament. Verily, it cannot easily be expressed, what a calamity this very thing we speak of has brought upon science; that men, out of an inbred pride and vain-glory, have made choice of such subjects, and of such a method and manner of handling them, as may set off their wit, rather than conduce to the reader's profit. But here *Seneca* gives an excellent check: *Nocet illis eloquentia, quibus non rerum cupiditatem facit, sed sui*: Doctrines should be such as should make men admire their justness and utility, and not the author: being directed to the auditor's benefit, and not to the author's commendation. Therefore they take a right course who can vouch that of their counsels, which *Demosthenes* did, and conclude them with this clause: "Which things if you
" put in execution, you will not only com-
" mend your orator at present, but your-
" selves likewise not long after, by reason
" of a more prosperous state of your af-
" fairs."

To speak truth of myself, both in the works I now publish, and in those I think of hereafter, I have often willingly thrown up the glory of my own wit and name, if I am entitled to any, while I study to advance the good and profit of mankind: and I that have merited to be an architect perhaps in philosophy and the sciences, am made even a labourer and a drudge, and any thing in short; while I sustain and execute myself many things, which must of necessity be done, but which others, from an innate pride, shift off from themselves. But to return to the matter in hand, I was observing, philosophers in moral science have chosen to themselves a certain resplendent and illustrious mass of matter, to give glory either to the subtilty of their wit, or to the vigour of their eloquence; but such precepts as chiefly direct the practice in life, which consists not in novelties or subtleties, they have for the most part omitted.

NEITHER ought men of such excellent parts to have despaired of a fortune like that which the poet *Virgil* promised himself, and indeed obtained; who got as much glory of

eloquence, wit, and learning in expressing his observations of husbandry, as in relating the heroical acts of *Eneas*:

*Nec sum animi dubius verbis ea vincere magnum
Quam sit, et angustis hunc addere rebus honorem.*

GEORG. III. 289.

“Nor can I doubt what oil I must bestow
“To raise my subject from a ground so low:
“And the mean matter which my theme affords
“To embellish with magnificence of words.”

DRYDEN.

AND surely, if authors meant in good earnest not to write at leisure, that which men may read at leisure, but really to instruct and be assisting to active life; these Georgics, that is, this husbandry and tillage of the mind of man, ought to be in as much esteem with men, as those heroical descriptions of virtue, good, and felicity, whereon so much labour and cost has been bestowed.

WE will therefore divide moral philosophy into two fundamental and principal doctrines: the one concerning the exemplar or image of good; the other concerning the

regimen or culture of the mind, which part we are wont to call the georgics of the mind: that describes the nature of good; this prescribes rules how to subdue, apply, and accommodate the will of man to it.

THE doctrine touching the exemplar, which respects and describes the nature of good, considers good, either simple or compared: that is, the kinds of good or the degrees of it. In the latter of these, the infinite disputations and speculations touching the supreme degree of good, which they termed felicity, beatitude, or the highest good, the doctrines which constitute the heathen divinity, are by the Christian faith taken away and discharged. For as *Aristotle* says, "That young men may be happy, but no otherwise than by hope:" so must we all, being so taught by the Christian faith, acknowledge ourselves to be but children and minors, and think of no other felicity than that which is in hope of the future world.

FREED, therefore, and delivered from that doctrine of the philosopher's heaven, in which
doubt-

doubtless they attributed to man's nature a higher elevation than it was capable of; for we see in what a height of stile *Seneca* writes: "It is truly great to have the frailty of a man, and the security of a God:" we may certainly with more sobriety and truth receive the rest of their enquiries and labours, concerning the doctrine of the exemplar or platform. For as concerning the nature of positive and simple good, they have drawn it admirably, in describing the forms of virtue and duty, with their situations and postures, in distributing them into their kinds, parts, provinces, actions, and administrations, and the like; nay further, they have commended them to man's nature and spirit with great force of argument, and beauty of persuasion; yea, fortified and entrenched them, as much as discourse can do, against corrupt and popular opinions. Again, for the degrees and comparative nature of good, they have excellently handled this also in their triplicity of good; in the comparisons between a contemplative and active life; in the distinction between virtue in trial, and virtue secured and confirmed; in the contests between honesty and interest; in the
balancing

balancing of virtue with virtue, to see which out-weighs the other; and the like. So that this part touching the platform I find excellently laboured, and that the ancients herein have shewed themselves admirable men: yet so, that the philosophers have been far out-gone by the pious and painful diligence of divines, in weighing and determining duties, moral virtues, cases of conscience, and the bounds and limits of sin.

If philosophers, however, before they had come to the popular and received notions of virtue and vice, pleasure and pain, and so forth, had staid a little longer upon the enquiry concerning the roots of good and evil, and the fibres of those roots, they had given, in my opinion, a great light to all that which might fall into enquiry afterwards: above all, if they had consulted as well the nature of things, as the axioms of morality, they had made their doctrines less prolix, and more profound; which being by them in part omitted, and in part handled with much confusion, we will briefly re-examine, and endeavour to open and clear the very springs of morality, before we come to the doctrine
of

of the culture of the mind, which we set down as deficient; for this, in my judgment, will give the doctrine of the platform, a kind of new life and spirit.

THERE is inbred and imprinted upon every thing an appetite to good of a double nature: the one, as a whole in itself; the other, as a part or member of some greater whole. And this latter is worthier and more excellent than that other, because it tends to the conservation of a more ample body. The first may be called individual or self-good; the latter the good of communion. The iron by particular sympathy moves to the load-stone: but yet if it exceeds a certain quantity, it forsakes the affection to the load-stone, and, like a good citizen and true patriot, moves to the earth, the region and country of its connaturals. To proceed a little further: water and massy bodies move to the center of the earth, to the great congregation of close compacted bodies; yet, rather than to suffer a divulsion in the continuance of nature, and that there should be, as they talk, a vacuum, these bodies will move upwards from the center of the earth, for-

forfaking their duty to it, that they may perform the general duty they owe to the world: fo is it ever feen, that the confervation of the more general and public form, commands and governs the leffer and more particular appetites and inclinations. But this prerogative of the good of community is efppecially engraven upon man, if he degenerate not, according to that memorable fpeech of *Pompey* the Great; who, being commiffioned for the importation of corn, when there was a famine at *Rome*, and being diffuaded with great vehemence by his friends that he would not hazard himfelf to fea in extremity of weather, made this anfwer only: “ There is a neceffity for my going, but no
“ neceffity for my living.” So that the defire of life, which in every individual is fo predominant, did not out-balance in him the love and allegiance to the republic. But why do we dwell upon this point? There was never found, in any age of the world, either philosophy, or feft, or religion, or law, or difcipline, which did fo highly exalt the good of communion, and depreff good, private and particular, as the holy Chriftian faith; whence it clearly appears, that it was
one

one and the same God that gave the Christian law to men, who gave those laws of nature to the creatures. Wherefore we read, that some of the elect saints have wished themselves anathematized and erased out of the book of life, rather than their brethren should not attain salvation, in an extacy of charity, and an infinite desire of the good of communion. Rom. ix.

THIS being laid down as an immoveable unshaken position, puts an end to some of the most weighty controversies in moral philosophy: for first, it determines that question concerning the preference of the contemplative to the active life; and that, against the opinion of *Aristotle*. For all the reasons which he brings for the contemplative life, respect private good, and the pleasure and dignity of a man's self only; in which respects, no doubt, the contemplative life has the pre-eminence: for the contemplative life is not much unlike that comparison which *Pythagoras* made for the gracing and magnifying of philosophy and contemplation: who being asked by *Hiero* what he was; answered: "That *Hiero* knew

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" well

“ well, if he had ever been at the *Olym-*
“ *pian* games, the manner there is, that
“ some come to try their fortunes for the
“ prizes; others, as merchants, to vend
“ their commodities; and some to meet their
“ friends, to make good cheer, and be
“ merry; others came to look on: and
“ that he was one of them that came for
“ that purpose.” But men should know, that
in this theatre of human life, it is fit only
for God and angels to be lookers on. Nei-
ther could any doubt; touching this point,
have arisen in the church from this passage,
“ Precious in the eyes of the Lord is the
“ death of his saints,” by which they exalt
their civil death and regular profession, ex-
cept upon this supposition, that the monastic
life is not simply contemplative, but alto-
gether conversant in ecclesiastical duties; as
incessant prayer; sacrifices of vows offered
to God; writing also theological books, for
the propagating the doctrine of the divine
law, as *Moses* did, when he abode so many
days in his retirement upon the mount. And
so *Enoch*, the seventh from *Adam*, who seems
to have been the first founder of the contem-
plative life; for he is said to have “ walked
“ with

“with God;” yet endowed the church with a book of prophecy, which is also cited by *St. Jude*. But for mere contemplation, terminated in itself, and which casts no beams of heat or light upon human society, assuredly divinity knows it not.

It decides also the question, controverted with such heat, between the schools of *Zeno* and *Socrates*, on the one side; who placed felicity in virtue, either simple or adorned, with other goods, which virtue has always had a principal share in the duties of life, and several other sects and schools, on the other side, as the schools of the *Cyrenaicks* and *Epicureans*, who placed it in pleasure, and made virtue to be but as an hand-maid, without which, pleasure could not be well served and waited upon; as also the other reformed school of *Epicurus*, which asserted felicity to be nothing else but a tranquillity and serenity of mind, free and void of all perturbations; as if they intended to dethrone *Jupiter*, and restore *Saturn* with the the golden age, when there was neither summer, winter, spring, nor autumn, but one serene air and season: lastly, the exploded

ploded school of *Pyrrho* and *Herillus*, who placed felicity in an utter extinction and exemption of all scruples and disputes of mind, making no fixed and constant nature of good and evil, but esteeming actions good or evil, according as they proceeded from the mind, with a clear and undisturbed motion, or, on the contrary, with aversion and reluctance; which opinion has been revived in the heresy of the Anabaptists, who measured all things according to the motions and instincts of the spirit, and the constancy or wavering of belief. But it is manifest, that all this, which we have recited, tends to private repose, and complacency of mind, and no way to society and the good of the community.

AGAIN, it censures also the philosophy of *Epietetus*, who presupposes this: that felicity must be placed in those things which are in our own power; lest otherwise, we should be liable to fortune and accidents: as if it did produce more happiness to fail of success, and to be frustrated, in worthy and generous intentions and ends for public good, than always to have our wish in all things relating

relating to our own private fortune only. As *Consalvo*, shewing his soldiers *Naples*, bravely protested, “ That he had much rather run himself upon certain ruin, by setting one foot forward, than prolong his life for many years by retreating one foot backward:” to which the wisdom of that heavenly philosopher also has subscribed who pronounced, “ That a good conscience is a continual feast:” plainly signifying, that the consciousness of good intentions, however unsuccessful, affords more solid and sincere joy, and to nature more agreeable, than all that provision wherewith man can be furnished, either for the fruition of his desires, or the rest and repose of his mind.

It censures likewise that abuse of philosophy which grew general about the time of *Epietetus*; which was, that philosophy was converted into a professory kind of life, and as it were into an art: as if the purpose of philosophy was, not to repress and extinguish perturbations, but to shun, and keep at a distance, the causes and occasions of them; and therefore a particular kind and

course of life were to be shaped to that end: introducing indeed such a health of mind, as was that of body in *Herodicus*, whom *Aristotle* speaks of: "That he did nothing all his life long, but study his health;" and therefore abstained from an infinite number of things; being, in the mean time, immersed, as it were, in the use of his body: but were the duties of society the delight of a man's soul, that health of body, when all is done, is principally to be desired, which is most able to bear and overcome all alterations and shocks whatever: likewise, that mind only is to be reckoned truly and properly sound and strong, which can break through the most and greatest temptations and perturbations. So that *Diogenes* seems to have spoken judiciously, who commended such strength and powers of mind, as were able, not warily to abstain, but bravely to sustain; which can restrain and check the fallies of the soul, even in the greatest precipices; and can do what is commended in well-managed horses, that is, stop and turn in the most narrow compass.

LASTLY,

LASTLY, it censures a certain delicacy and want of application, noted in some of the most ancient and reverend philosophers, who withdrew too easily from civil business, for avoiding indignities and perturbations, and that they might live more unstained, and as it were sacred in their persons: whereas the resolution of a man truly moral ought to be such, as the same *Consalvo* required in a military man, viz. That his honour should be *tela crassiore*, of a stronger texture, and not so fine, as that every thing should catch in it, and tear it.

PRIVATE GOOD,
AND THE
GOOD OF SOCIETY.

LET us now resume and prosecute first, private and particular good. This we will divide into good active, and good passive. For this difference of good, similar to those appellations among the

Romans in their œconomics of *Promus* and *Condus*, is found deeply engraven upon the universal nature of things, and is best disclosed in the two several appetites in creatures; the one to preserve and fortify themselves, the other to multiply and dilate themselves: whereof the latter, which is active, seems to be the stronger and worthier; and the former, which is passive, may well be judged the inferior. For in nature, the heavens, which are the more worthy, are the agent; and the earth, which is the less worthy, is the patient. In the pleasures of living creatures, that of generation is greater than that of food. In divine doctrine, “it is more blessed to give than to receive,” Acts xx. 35. In common life too, there is no man’s spirit so soft and effeminate, but he esteems the effecting of something that he has fixed in his desire, more than any sensuality or pleasure. And this priority of active good is highly exalted from the consideration of our estate being mortal, and exposed to the stroke of fortune. For if we might have a perpetuity and certainty in our pleasures, the price of them would be advanced, on the account of their
security

security and continuance. But when we see it is but *Magni aestimamus*, &c. "We set a great value upon dying a little later:" and, "Boast not of to-morrow; thou knowest not what a day may bring forth:" it makes us desire to have something secured and exempted from time; which can be only our deeds, as it is said, "Their works follow them." Revel. xiv.

THE pre-eminence likewise of this active good is proved, by the affection which is natural in man towards variety and progression; which affection, in the pleasures of the sense, which is the principal part of passive good, can have no great latitude. "Do but think," says *Seneca*, "how often you have enjoyed the same things; meat, sleep, diversion; we run round in this circle: so not only a brave, a miserable, or a wise man, but a nice fastidious person would wish to die." But in the enterprises, pursuits, and purposes of life, there is much variety, which affords great pleasure in their inceptions, progressions, recoils in order to renew their forces, approaches, attainments of their ends, and the like: so

it was well and truly said: "A life that
" proposes no end to pursue, is vague and
" insipid." Neither has this active good
any identity with the good of society, though
in some cases it is coincident with it; for
although it does many times bring forth
acts of beneficence, yet it is private with
respect to a man's own power, glory, amplifi-
cation, and continuance; as appears plainly,
when it lights upon a subject which is con-
trary to the good of society. For that gi-
gantic state of mind, which possesses the
disturbers of the world, such as was *Lucius*
Sylla, and infinite others in smaller model,
who would have all men happy or unhappy,
as they are their friends or enemies, and
would give form to the world according to
their own humour, which is the true *the-*
omachy, pretends and aspires to active good,
though it recedes farthest from the good of
society, which we have determined to be
the greater.

To resume passive good, we will subdivide
it into good conservative, and good perfec-
tive. For there is impressed upon every
thing a triple desire or appetite, in respect of
private

private or particular good : the first, of preserving or continuing itself; the second, of advancing and perfecting itself; the third, of multiplying or extending itself. But this last appetite refers to active good, which we have already handled. There remain therefore only the two other goods mentioned; whereof the perfective excels: since to preserve a thing in its natural state, is less than to advance the same in a higher nature. For there are found through all essences some nobler natures, to the dignity and excellency of which inferior natures do aspire, as to their origin and source. So in man:

Ignæus est illis vigor et cœlestis origo.

ÆN. VI 730.

“Th’ ethereal vigour is in all the same,
“And ev’ry soul is fill’d with equal flame.”

DRYDEN.

His approach to divine or angelical nature is the perfection of his form; a depraved and preposterous imitation of which perfective good, is that which is the tempest of human life, while man upon the impulse of an

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advance,

advancement formal and essential, is carried to seek an advancement only local: like those who are sick and find no remedy, rove up and down in change of place, as if by a remove local, they could obtain a remove internal, and shift off their disease. So is it in ambition; that men, being possessed and led away with a false resemblance of exalting their nature, purchase nothing else but an eminence and elevation of place. So then passive good is, as was said, either conservative or perfective.

To resume the good of conservation or comfort, which consists in the fruition of that which is agreeable to our natures, it seems to be the most pure and natural good, yet it is the softest and lowest. And this also receives a difference, which has neither been accurately examined nor decided: for the good of fruition or delight is placed either in the sincerity of the fruition, or in the quickness and vigour of it: the one superinduced by the equality; the other by variety and vicissitude. The one having less mixture of evil; the other, a more strong and lively impression of good: which of these

these is the greater good, is a question controverted; but whether man's nature may not be capable of both, is a question not discussed.

THE former question being debated between *Socrates* and a Sophist; *Socrates* placed felicity in a constant peace and tranquillity of mind; but the Sophist in desiring and enjoying much; they fell from arguments to ill words; the Sophist saying, "That *Socrates's* happiness was that of a block or a stone." *Socrates*, on the other side, "That the Sophist's happiness was that of one that had the itch, who did nothing but scratch." And both these opinions do not want their advocates. For to *Socrates* even the school of *Epicurus* itself assents, not denying but virtue contributes most to happiness: and if so, most certain it is, that there is more use of virtue in composing perturbations, than in accomplishing desires. The Sophist's opinion is favoured something by this assertion; "That the compassing of things desired, seems by degrees to perfect nature:" which, though it should not in reality

reality do, yet motion, though in a circle, has somewhat of a shew of progression.

BUT the second question: that is, Whether the nature of man may not at once retain both a tranquillity of mind, and the vigour of fruition, decided the true way, makes the former superfluous. For do we not often see, that some men are so framed and made by nature, as to be extremely affected with pleasures while they are present, and yet are not greatly troubled at the loss of them? So that this precept, "Not to use, that you may not desire: Not to desire, that you may not fear;" seems to be the result of a poor diffident spirit. And certainly most of the doctrines of the philosophers are more fearful and cautionary, than the nature of things requires. Thus have they increased the fear of death, in offering to cure it: for when they would have a man's whole life to be but a discipline or preparation for death, they must make men think that it is a terrible enemy, against which there is no end of preparing. Better says the Poet:

Qui

Qui spatium vitæ extremum inter munera ponat natura.

“ A soul that can securely death defy,
“ And count it nature’s privilege to die.”

DRYDEN:

So have the philosophers sought to make mens minds too uniform and harmonious, by not breaking and inuring them to contrary motions and extremes. The reason of which I suppose to be, because they themselves were men dedicated to a private, free, and inactive course of life. For as we see upon the lute, or like instrument, a ground, though it be sweet, and have shew of many changes, yet breaks not the hand to such strange and hard stops and passages, as a set song or voluntary: much after the same manner was the diversity between a philosophical and a civil life; and therefore men are to imitate the wisdom of jewellers, who, if there be a cloud or speck which may be ground out, without taking too much of the stone, they help it; but if it should lessen and abate the stone too much, they will not meddle with it: so ought men so to procure serenity, as not to destroy magnanimity.

HAVING therefore spoken of private or individual good, let us resume the good of communion, which respects society. This commonly goes by the name of duty; because the term duty is more proper to a mind well framed and composed towards others; as the term virtue is applied to a mind well formed and composed within itself; though virtue cannot be understood, without some relation to society, nor duty, without an inward disposition. This part may seem at first sight to belong to science civil and political; but not if it be well observed. For it concerns the regimen and government of every man over himself, and not over others. And as in architecture, it is one thing to frame the posts, beams, and other parts of an edifice, and to prepare them for the use of building; and another thing to fit and join the same parts together: and in mechanics, the direction how to frame an instrument or engine, is not the same with the manner of erecting, moving, and setting it to work, yet in expressing of the one, we incidently express the aptness towards the other: so the doctrine of the conjugation of men in society differs from that which makes them

them conformable, and well affected to the welfare of such a society.

DUTIES are subdivided into two parts: the common duty of every man, as a member of a state; the other, the respective or special duty of every man in his profession, vocation, and place. The first of these is extant and well laboured, as has been said: the second likewise we find handled in detached parts, not digested into an entire body of a science: which manner of dispersed writing, in this kind of argument, I acknowledge to be best: for who can take upon him to write of the proper duty, virtue, challenge, and right of every several vocation, profession, and place? For although sometimes a looker on may see more than a gamester; and there is a proverb more arrogant than sound, touching the censure of the vulgar, as to the actions of princes, "That the vale best discovers the hill;" yet there is little doubt but that men can write best, and most really and materially so, in their own profession: and that the writings of speculative men concerning active matters, seem to men of experience little better

better than *Phormio's* discourses of the wars seemed to *Hannibal*, who esteemed them dreams and dotage. Only there is one vice which accompanies those who write in their own profession, that they magnify them to excess. But generally it were to be wished, which would make learning indeed solid and fruitful, that active men would or could become writers.

THERE belongs to this part touching the duties of professions and vocations, the opposite one, concerning the frauds, provisory cautions, impostures, and vices of every profession; which have likewise been treated of in many writings. But how? Rather by way of satire and cynical, in the manner of *Lucian*, than seriously and wisely. For men have rather sought by wit to deride and traduce much of that which is good in professions, than with judgment to discover and sever that which is corrupt. For as *Solomon* says, He that cometh to seek after knowledge, with a mind to scorn and censure, shall be sure to find matter for his humour, but none for his instruction. *Querenti derisori, &c.* “A scorner seeketh wisdom,

“dom, and findeth it not: but knowledge
“is easy to him that understandeth.” Prov.
xiv. 6. But the managing of this argument
with integrity and truth, which I note as
deficient, seems to me to be one of the best
fortifications for honesty and virtue that can
be planted. For as the fable goes of the
Basilisk, that if he see you first, you die for
it; but if you see him first, he dies: so it is
with deceits and evil arts; which, if they
are first espied, lose their life: that is, their
power of doing hurt: but if they attack you
by surprise, they endanger. So that we are
much beholden to *Machiavel* and others,
who write what men do, and not what they
ought to do; for it is not possible to join the
“wisdom of the serpent with the innocence
“of the dove;” except men knew exactly
all the conditions of the serpent: his base-
ness, and going upon his belly; his volubi-
lity and lubricity; his envy and sting, and
the rest; that is, all forms and natures of
evil. For without this skill, virtue lies open
and unfenced: nay, a sincere and honest
man can do no good in reclaiming those that
are wicked, without the knowledge of evil.
For men of corrupt minds and depraved
judgments

judgments presuppose, that honesty grows out of ignorance, simplicity of manners, the belief of preachers, school-masters, and mens exterior language: so unless you can convince them that you know the utmost reaches of their own corrupt opinions, they despise all morality, according to that admirable doctrine of *Solomon*: “A fool will not receive the words of the wise, unless thou speakest the very things that are in his heart.” Prov. xvii. 2. [(i. e.) unless thou know all the coverts and depths of wickedness.

To this part, touching respective duty are assigned the mutual duties between husband and wife, parent and child, master and servant; so likewise, the laws of friendship and gratitude: as also the civil bonds of fraternities, colleges, politic bodies, of neighbourhood, and all other proportionate duties: not as they are parts of government and society, for that refers to politics, but as to the framing the mind of particular persons, for the maintaining of such bonds of society.

BUT

BUT the doctrine concerning the good of communion, or of society, and good individual, not only considers simply, but comparatively also; to which belongs the weighing of duties between person and person; between case and case; between private and public; between time present, and future: as we may see in the severe and cruel proceeding of *L. Brutus* against his own sons, which was so much extolled by the generality of people.

AGAIN, we see when *M. Brutus* and *Cassius* invited to supper those whose opinions they meant to sound, whether they were fit to be made their associates; and proposing the question touching the lawfulness of killing a tyrant, as an usurper, they were divided in opinion; some holding, that servitude was the extreme of evils; and others, that tyranny was better than a civil war. A number of the like cases there are of comparative duty; the most celebrated of which, where the question is, of a great deal of good to ensue from a lesser injury: which *Jason of Thessaly* determined against the truth: *Aliqua sunt injuste facienda, &c.* “Some

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“ things

“ things may be done unjustly, that many things may be done justly. But the reply is good: *Authorem præsentis justitiæ habes; sponsorem futuræ non habes*: “ Men must pursue “ things which are just in time present, and “ leave the future to divine providence.” And so we pass on from this general part touching the exemplar and description of good.

HAVING treated of this fruit of life, it remains to speak of the husbandry requisite to produce it: without which part, the former seems to be no better than a fair image or statue, which is beautiful to contemplate, but without life and motion; to which opinion *Aristotle* himself subscribes in express words: “ It is necessary to speak of virtue, “ both what it is, and how to procure it; “ for it would be to little purpose to know “ virtue, and to be ignorant of the manner “ and means how to compass it. For enquiry must be made not only of her form, “ but also how she is to be attained: for we “ should have both the knowledge and the “ fruition of it. Now this cannot succeed “ to our desire, unless we know both of “ what

“ what materials it is compounded, and
 “ how to procure it.” In such strong and
 repeated terms does he inculcate this part,
 which notwithstanding he himself does not
 prosecute. This is what *Cicero* attributed to
Cato the younger, as a great commendation,
 that he had applied himself to philosophy,
 “ not for disputation sake, but to live ac-
 “ cording to its rules.” Though, through
 the neglect of our times, wherein few men
 hold any consultation touching the reforma-
 tion of their life, as *Seneca* excellently says, “ Of
 “ the parts of life every one deliberates;
 “ of the sum of life nobody;” this part
 may seem superfluous, yet this moves us not
 to leave it untouched, but rather we con-
 clude with that aphorism of *Hippocrates*:
Qui gravi morbo correpti dolores non sentiunt, iis
mens agra est: “ They who are sick of a
 “ dangerous disease, and feel no pain, are
 “ distempered in their understanding.” Such
 men need a medicine, not only to assuage
 the disease, but to awaken the sense: and if
 it be said, that the cure of mens minds be-
 longs to sacred divinity, it is most truly
 said; but yet what hinders, but moral phi-
 losophy may be accepted into the train of

theology, as a wise servant and humble hand-maid, ready at all commands to do her service? For as it is in the Psalms, "That
"the eyes of the hand-maid look perpetually
"towards the mistress:" and yet no doubt many things are left to the discretion and care of the hand-maid, to discern of the mistress's will: so ought moral philosophy to give all due observance to divinity, and to be obsequious to her precepts; yet so as it may yield of itself, within due limits, many sound and profitable directions.

THIS part therefore, when I seriously consider its excellency, I cannot but find exceeding strange that it is not yet reduced into a body of knowledge; especially as it consists of much matter, wherein both speech and action is often conversant, and such wherein the common talk of men, though rarely, yet sometimes is wiser than their books: it is reasonable therefore that we propose it the more particularly, both for the worthiness, and that we may acquit ourselves for reporting it deficient, which seems almost incredible, and presupposed complete by the writers on morality. We will therefore

fore enumerate some heads or points thereof, that it may appear the better what it is, and whether it be extant.

THE GEORGICS OF THE MIND,

OR THE

CULTURE OF OUR MANNERS.

FIRST therefore in this, as in all things which are practical, we ought to calculate what is in our power, and what not; for the one may be dealt with by alteration, but the other by way of application only. The husbandman cannot command, neither the nature of the earth, nor the seasons of the year; no more can the physician the constitution of the patient, nor the variety of accidents: so in the culture and cure of the mind of man, two things are without our command; points of nature, and points of fortune: for to the basis of the one, and the conditions of the other, our work is limited

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and

and tied. In these things therefore it is left unto us to proceed by application :

* *Superanda omnis fortuna ferendo.*

VIRG. ÆN. VII.

“ By suff’ring well, our fortune we subdue.”

And so likewise,

“ By suff’ring well, our Nature we subdue.”

BUT when we speak of suffering, we do not mean a dull and neglected, but a wise and industrious suffering, which draws and continues use and advantage, out of that which seems adverse and contrary; which is that property which we call accommodating, or applying. Now, the wisdom of application lies principally in the exact and distinct knowledge of the precedent state or disposition, unto which we do apply: for we cannot fit a garment, except we first take measure of the body,

So then the first article, touching the culture of the mind, is to set down sound and true

ft
true distributions and descriptions of the several characters of mens natures and dispositions, having especial regard to those differences which are most radical, in being the fountains and causes of the rest, or most frequent in concurrence or commixture; wherein it is not the handling of a few of them superficially, the better to describe the mediocrities of virtues, that can satisfy this intention: for if it deserves to be considered that there are minds which are proportioned to great matters, and others to small, which *Aristotle* handles, or ought to have handled, by the name of magnanimity; does it not deserve as well to be considered, that there are minds proportioned to comprehend many matters, and others few? So that some can divide themselves, others can perchance do exactly well, but it must be only in few things at once; and so there comes to be a narrowness of mind, as well as pusillanimity. And again, that some minds are proportioned to that which may be dispatched at once, or within a short return of time; others to that which begins afar off, and is to be won with length of pursuit.

——— *Hoc regnum dea gentibus esse,
Si qua fata sinant, jam tum tenditque fovetque.*

VIRG. *Æn.* I. 21.

——— “Here, if heav’n were kind,
“The feat of awful empire she design’d.”

DRYDEN.

So that there may be fitly said to be a longanimity, which is commonly also ascribed to God, as a magnanimity. Further deserved it to be considered by *Aristotle*, that there is a disposition in conversation, even in things which have no connection with a man’s self, to sooth and please; and a contrary disposition to contradict and cross: and deserves it not much better to be considered, that there is a disposition, not in conversation or talk, but in matters of more serious nature, and without any interest in them, to take pleasure in the good of another; and a disposition, on the contrary, to take distaste at the good of another? Which is that property which we call good nature, or ill nature, benignity, or malignity: and therefore I cannot sufficiently marvel, that this part of knowledge touching the several characters of natures and dispositions, should be omitted,

omitted, both in morality and policy, considering it would cast such resplendent beams of light upon both those sciences.

A MAN shall find in the traditions of astrology, some curious and apt divisions of mens natures, according to the predominances of the planets; lovers of quiet, lovers of action, lovers of victory, lovers of honour, lovers of pleasure, lovers of arts, lovers of change, &c. So among the poets, heroical, satyrical, tragical, comical, a man shall find every where the images of peculiar manners, though commonly with excess, and beyond the proportion of truth: but the best provision, and noblest matter of such a treatise, may be fetched from the wiser sort of historians, but yet not from the eulogies only, which they are wont to subjoin upon mentioning the death of any illustrious person; but much more from the entire body of the history, as often as such a person is exhibited. For this interwoven image seems to be a better description than any judgment passed upon a man in an eulogy: as that in *T. Livius*, of *Africanus*, and of *Cato the Elder*; in *Tacitus*, of *Tiberius*, *Claudius* and *Nero*;

Nero; in *Herodian*, of *Septimius Severus*; in *Philip de Comines*, of *Lewis the Eleventh of France*; in *Francis Guiciardine*, of *Ferdinand of Spain*, *Maximilian the emperor*, and of *Leo and Clement*, Bishops of *Rome*. For these writers, having the images of those persons whom they meant to decypher, almost constantly in their eye, hardly ever make mention of their acts and atchievements, without interspersing at the same time something touching their natures. So we shall find in the wisest sort of those relations, which the *Italians* make touching conclaves, the natures of the several Cardinals handsomely and lively painted: as the letters of ambassadors set forth the natures and manners of counsellors to princes. A man shall meet with, in every day's conference, the denomination of sensitive, dry, formal, real, humorous, certain, *Huomo di prima impressione*, *Huomo di ultima impressione*, and the like; yet these observations are vague in expression, and not accurately defined by enquiry: many distinctions are found, but we conclude no precepts from them, because both history, poesy, and daily experience, are as goodly fields where these observations grow; of which,

which, like flowers, we make a few poesies to hold in our hands, but no man brings them to a chymical analysis, that receipts may be made of them for the use of life. Wherefore let there be made out of this matter, which certainly is fruitful and copious, a diligent and full treatise. But my meaning is not that these characters should in ethics, as in histories, poems, and common conversation, be drawn as perfect, entire civil images, but rather as the simple and constituent strokes of the images themselves; which being compounded and mixed together form and constitute all effigies whatever; how many, and of what sort they are; how connected together, and subordinate one to another: to the end there may be made a kind of artificial and accurate dissection of tempers and natures; and that a discovery may be made of the secrets of dispositions in particular persons, and from the knowledge thereof, precepts and rules more truly drawn for the cures of the mind,

AND not only the characters of dispositions, impressed by nature, ought to be taken into this treatise; but those also which are
im-

imposed upon the mind, by the sex, age, country, health and sickness, beauty and deformity, and the like, which are inherent, and not external: again those which are caused by fortune; as sovereignty, nobility, obscure birth, riches, want, magistracy, privacy, prosperity, adversity, constant fortune, variable fortune, rising suddenly or gradually, &c. and therefore we see that *Plautus* makes it a wonder to see an old man beneficent: *Benignitas hujus ut adolescentuli est*: "He is as generous as a young fellow." *St. Paul* concludes, that severity of discipline was to be used to the *Cretans*, "Rebuke them sharply," upon the disposition of their country; "The *Cretans* are always liars, evil beasts, slow bellies." *Tit. i.* *Sallust* notes, that it is usual with kings to desire contradictories: *Sed plerumque regiae voluntates, ut vehementes sunt, sic mobiles, saepeque ipsae sibi adversae.* *Tacitus* observes, how rarely raising of the fortune mends the disposition: *Solus vespasianus mutatus in melius.* *Pindar* makes an observation, that great and sudden fortune loosens and enervates mens minds: "There are some that are not able to digest great felicity." So the psalm shews

shews it more easy to keep a measure in the enjoying of fortune, than in the increase of it: "If riches increase, set not your heart upon them." I deny not but these and the like observations are touched a little by *Aristotle* incidentally in his rhetoric, and are handled in some scattered discourses, but they were never incorporate into moral philosophy, to which they do essentially belong; as the knowledge of the diversity of grounds does to agriculture, and the knowledge of the diversity of complexions and constitutions does to the physician; except we mean to follow the indiscretion of empirics, who administer the same medicines to all patients of what constitution soever.

ANOTHER article of this knowledge is, the enquiry touching the affections: for as in applying medicines to the body, the first thing in order is, to know the different complexions and constitutions; secondly, the diseases; and lastly, the cures: so in administering remedies to the mind, after knowledge of the divers characters of mens natures, it follows in order to know the diseases and infirmities of the mind, which are no other than

than the perturbations and distempers of the affections. For as the ancient politicians in popular states were wont to compare the people to the sea, and the orators to the winds; because as the sea would of itself be calm and quiet, if the winds did not move and trouble it; so the people would be peaceable and tractable, if the seditious orators did not set them in working and agitation: so it may be fitly said, that the mind of man in its nature would be temperate and stayed, if the affections, as winds, did not put it into tumult and perturbation. And here again I find it strange, as before, that *Aristotle* should have written divers volumes of ethics, and never handled the affections, which is the principal subject of it; and yet in his rhetoric, where they are considered but collaterally, and in a second degree; that is, so far as they may be raised and moved by speech, he has handled them well for the quantity; but omitted them in their proper place. For it is not his disputations about pleasure and pain that can satisfy this enquiry, no more than he that should generally examine the nature of light can be said to treat of colours; for pleasure and pain are
to

to the particular affections, as light is to particular colours. Greater pains, I suppose, had the *Stoicks* taken in this argument, as far as I can gather by that which we have at second-hand; but probably it was after their manner, rather in subtilty of definitions, which, in a subject of this nature, are but curiosities, than in active and ample descriptions and observations. I find likewise some particular writings, of an elegant nature, touching some of the affections; as of anger, of comfort upon adverse accidents, of tenderness of countenance, and some few others. But to speak truth, the best teachers of this knowledge are the poets and writers of histories, where we may find painted with great life, how affections are kindled and incited; how pacified and restrained; and how again contained from act, and further degree; how they disclose and betray themselves, though checked and hidden; how they work; how they vary; how they gather and fortify; how they are complicated; what conflicts they have one with another; and similar particularities: among which, this last is of special use in moral and civil matters: how, I say, to set affection against affection,

fection, and to master one by another; even as we use to hunt beast with beast, and fly bird with bird, which otherwise perchance we could not so easily recover: upon which foundation is erected that excellent use of reward and punishment, whereby civil states consist; employing the predominant affections of fear and hope for the suppressing and bridling the rest: for as in the government of states, it is necessary to bridle one faction with another, so it is in the government within.

WE now come to those points which are within our own command, and have force and operation upon the mind to affect the will and appetite, and to alter the manners: wherein the philosophers ought to have made a diligent and painful enquiry concerning the force and energy of custom, exercise, habit, education, imitation, emulation, company, friendship, praise, reproof, exhortation, fame, laws, books, studies, &c. For these are the points which have dominion in morality: from these agents the mind suffers, and is altered: of these, as ingredients, receipts are compounded,

ed, which conduce to the preservation and recovery of the health and good estate of the mind, as far as relates to human medicine. Of which number we will select some one or two to insist upon as an example of the rest, because it were too long to prosecute all; and therefore we resume the consideration of custom and habit.

THAT opinion of *Aristotle* seems to me to favour much of negligence, and a narrow contemplation, where he asserts, that over those actions which are natural, custom has no power; using for example, that if a stone be thrown ten thousand times up, it will not learn to ascend of itself; and that by often seeing or hearing we do not learn to see or hear the better. For though this principle be true in things wherein nature is peremptory, yet it is otherwise in things wherein nature, according to a latitude, admits of intension and remission: for he might see that a strait glove will come more easily on with use, and that a wand will by use bend otherwise than it grew; that by use of the voice we speak louder and stronger; and that by use of enduring heat and cold we endure it the better: which two latter examples have a nearer re-

semblance to the subject he is handling, than those instances which he alledges. But allowing his conclusion, that virtues and vices consist in habit, he ought so much the more to have taught the manner of superinducing that habit; for a great many precepts may be given concerning the wise ordering of the mind, no less than those of the body. We will recite a few of them.

THE first, to beware, at the very beginning, of harder or easier tasks than the case requires; for if too great a burden be laid on a diffident nature, you will blunt the cheerfulness of good hopes: in a nature full of assurance you will raise an opinion, whereby a man will promise himself more than he is able to preform, which occasions sloth: and in both tempers, the experiment will not satisfy the expectation, which ever discourages and confounds the mind: but if the tasks are too easy, as to the progress, on the whole there is great loss.

THE second, that for the exercising of any faculty, whereby a habit may be acquired, two seasons are chiefly to be observed: the one,

one, when the mind is most, the other when it is least disposed for the thing: that by the former we may rid ground apace, and by the latter we may, by a strenuous contention, work out the knots and stops of the mind; whereby the middle times will pass easily and smoothly.

THE third precept, that which *Aristotle* mentions transiently; that we bear with all our might, provided it be a thing not vicious, towards the contrary of that to which we are by nature most inclined: like as when we row against the stream, or bend a crooked wand, to make it strait the contrary way.

THE fourth precept depends upon a principle that is most true; viz. that the mind is more happily and sweetly brought to any thing, if that, at which we aim, be not principal in the intention of the doer, but be attained, as it were, *aliud agendo*; “by doing something else;” because such is the instinct of nature, that she in a manner hates necessity and severe commands. Many other rules there are which may profitably be prescribed touching the direction of custom:

for custom, if it be wisely and skilfully induced, really proves a second nature; but if it be conducted unskilfully and at random, it will be only nature's ape; which imitates nothing to the life, but in an aukward and ungraceful manner.

IN like manner, if we would speak of books and studies, and of their power and influence upon manners; are there not divers precepts, and useful directions appertaining thereunto? Has not one of the fathers, in great indignation, called poetry, the wine of devils, because it really excites a world of temptations, desires, and vain opinions? Is it not a very wise opinion of *Aristotle's*, and worthy to be well weighed; “ That young men are not fit auditors of
“ moral philosophy, because the ferment of
“ their passions is not yet settled, nor laid
“ asleep by time and experience?” And to speak truth, is not this the reason, that those most excellent books and discourses of ancient writers (whereby men are most powerfully invited to virtue, as well by representing her august Majesty to the eyes of all, as by exposing to scorn popular opinions,
attired,

attired, as it were, to the disgrace of virtue, in the habit of parasites) are of so little effect towards honesty of life, and the reformation of corrupt manners; because they use not to be read by men mature in years and judgment, but are left only to boys and beginners? Is not this also true, that young men are much less fit auditors of policy than morality, till they are thoroughly seasoned with religion, and the doctrine of manners and duties; lest their judgments being depraved and corrupted, they should come to think, that there are no true and solid moral differences, but that all is to be measured by utility or success? As the poet says:

Prosperum et felix scelus virtus vocatur.

BUT the poets, you will say, speak this satirically, and by way of indignation; yes; but some books of politics suppose the same thing seriously and positively. For so it pleases *Machiavel* to say: "That if *Cæsar* had happened to have been overthrown, he would have been more odious than even *Cataline*." As if truly there was no difference, but in fortune only, between a

fury, composed of lust and blood; and an exalted spirit, of all mortals, ambition apart, the most to be admired. We see from this instance how necessary it is for men to drink deep of pious and moral doctrines, before they taste of politics; since they who are bred up in the courts of princes, and in affairs of state, from their tender years, hardly ever attain a sincere and inward probity of manners; how much less if there be added, the discipline of corrupt books also? Again, even in moral instructions themselves, or at least some of them, is not caution likewise to be used, lest men become thereby stiff, arrogant, and unsociable, according to that of Cicero, touching M. Cato? *Hæc bona, quæ videmus divina et egregia, ipsius scitote esse propria: quæ nonnunquam requirimus, ea sunt omnia non a natura, sed a magistro:* “ These
 “ divine and excellent qualities which we
 “ see, are, assure yourselves, his own proper
 “ endowments: but the things we some-
 “ times think him deficient in, they are all
 “ derived not from nature, but from his in-
 “ structor Zeno.” Many other axioms and
 advices there are touching those properties
 and effects which studies do infuse and instill
 into

into manners. For that is a true saying, *Abeunt studia in mores*; which may equally be affirmed of those other points, of company, fame, laws, and the rest, which we recited in the beginning of the doctrine of morality.

BUT there is a culture of the mind that seems yet more accurate and elaborate than the rest, and is built upon this ground, that the minds of all men are at some times in a state more perfect, and at other times in a state more depraved. The purpose therefore and intention of this culture is, to fix and cherish those good seasons, and to strike out of the calendar and expunge the evil. The fixing of the good times is procured by two means: vows, or at least most steady resolutions; and by observances and exercises; which are not to be regarded so much in themselves, as because they keep the mind in continual obedience. The obliteration of the evil may, in like manner, be brought about two ways: by some kind of redemption, or expiation of that which is past; and by a prudent conduct for the time to come. But this part seems wholly to belong to divinity, and justly; since the

true and genuine moral philosophy is but an hand-maid to religion.

WHEREFORE we will conclude this part concerning the culture of the mind with that remedy, which, of all others, is the most compendious and summary; and again, the most noble and effectual to the forming of the mind to virtue, and placing it in a state next to perfection: and it is this; the electing and proposing unto a man's self good and virtuous ends of his life and actions, which yet must be such as may be within his compass to attain. For if these two things be supposed, that a man set before him honest and good ends; and again, that he be resolute, constant, and true to them, it will follow, that he shall mould himself into all virtue at once. And this is indeed like the work of nature; whereas the other course is like the work of the hand: for as when a carver cuts and carves an image, he shapes only that part of the figure which he is working upon, and none of the rest; for if he be upon the face, the rest of the body remains a rude and formless stone, till such time as he comes to it: but, on the contrary,

trary, when nature makes a flower, or living creature, she forms the rudiments of all the parts at one time: after the same manner, in obtaining virtue by habit, while a man practises temperance, he does not profit much as to fortitude, nor the other virtues: but when we dedicate and devote ourselves wholly to good and honest ends, we shall find ourselves invested with a precedent disposition to conform ourselves to any virtue proposed. And this may be that state of mind which is excellently described by *Aristotle*, and which he says ought not to be called virtuous, but divine. His words are these: "It may be reasonable to oppose to immanity, that ability which is above humanity;" namely, heroical or divine virtue. And a little after: "For as a beast is not capable of vice or virtue, so neither is the Deity." And therefore we may see what height of honour *Plinius Secundus* attributes to *Trajan*, in the exaggerated style of the heathens, when he said, "That men needed to make no other prayers to the Gods, than that they would continue to be as good and propitious lords to them, as *Trajan* had been:" as if he had not only been an imitation of divine nature,

nature, but a pattern of it. But these are heathen and profane boastings, having but a shadow of that divine state of mind, which religion and the holy faith do conduct men to, by imprinting upon their souls charity, which is excellently called, “the bond of perfection,” because it comprehends and fastens all virtues together. And it is elegantly said by *Menander* of sensual love, which is but a false imitation of divine love: *Amor, melior sophista lævo, ad humanam vitam*: “That love teaches a man to carry himself better than the sophist or preceptor;” whom he calls left-handed, because, with all his rules and precepts, he cannot form a man so dexterously, nor with that facility to value and govern himself, as love can do: certainly, if a man’s mind be truly inflamed with charity, it works him more suddenly into perfection, than all the doctrine of morality can do, which is but a sophist in comparison of the other. Nay, further, as *Xenophon* observed truly, that all other affections, though they raise the mind, yet they do it by distortion and violent agitation of extacies or excess; but only love exalts the mind, and at the same instant settles and composes it: so
all

all other human excellencies which we admire, though they advance nature, yet are subject to excess; which charity only does not admit. For we see the angels in aspiring to be like God in power, transgressed and fell: "I will ascend, and be like the Higheft." By aspiring to be like God in knowledge, man transgressed and fell: "Ye shall be as Gods, knowing good and evil:" but by aspiring to a similitude of God, in goodness or love, neither man nor angel ever did or can transgress. Nay, unto this imitation we are even called: "Love your enemies: do good to them that hate you, and pray for them that despitefully use you, and persecute you; that you may be the children of your Father which is in heaven, who maketh his sun to rise on the evil, and on the good, and sendeth rain upon the just, and upon the unjust." So in the first platform of the divine nature, the heathen religion speaks thus: "Best, greatest:" and the sacred scriptures thus: "His mercy is above all his works."

THUS having concluded that general part of human philosophy, which contemplates
man,

man, as he consists of body and spirit, we may add that observation about moral knowledge, which is, that there is a kind of relation and conformity between the good of the mind, and the good of the body: for as the good of the body consists of health, beauty, strength, and pleasure; so the good of the mind, if we consider it according to the axioms of moral knowledge, tend to this point: to make the mind sound, and free from perturbation; beautiful, and graced with the ornament of true decency; strong and agile to all the duties of life: lastly, not stupid, but retaining a quick and lively sense of pleasure, and honest recreation. But these four, as in the body, so in the mind, seldom meet all together: for it is easy to observe, that many have strength of wit and courage, but have neither health from perturbations, nor any beauty or decency in their actions: some again have an elegance and fineness of carriage, who have neither soundness of honesty, nor vigour for the active duties: and some again have honest and reformed minds, who are neither an ornament to themselves, nor useful to the public: others, who perhaps are masters of three of them,

them, but yet being possessed with a certain stoical sadness and stupidity, practise indeed the actions of virtue, but have none of the pleasures of it. Thus of these four, two or three may meet, yet a concurrence of all four very rarely happens.

O N

CIVIL CONVERSATION.

CONVERSATION certainly ought not to be affected, but much less neglected; since a prudent government of it both carries in itself a certain gracefulness of manners, and is of great service towards a clever management of business, as well public as private. For as action in an orator is so much regarded, though an outward quality, that it is preferred even before those other parts which seem more grave and intrinsic; in the same manner almost, in a man of a civil

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practical

practical life, conversation, and the regulation of it, though conversant about exteri-
 ors, finds, though not the chief, yet
 certainly an eminent place. For of how
 great importance is the countenance and the
 composure of it: the poet says well:

Nec vultu destrue verba tuo.

FOR a man may undermine, and utterly
 betray the force of his words with his coun-
 tenance. Nay, our actions, as well as words,
 may likewise be destroyed by the counte-
 nance, if we may believe *Cicero*; who, re-
 commending to his brother affability towards
 the Provincials, said, it did not principally
 consist in this, the giving easy access to his
 person, unless likewise he received them
 courteously with his very countenance: *Nil
 interest habere ostium apertum, vultum clausum*:
 “It avails nothing to have your door open,
 “while your countenance is shut.” We
 see likewise *Atticus*, upon the first interview
 between *Cicero* and *Cæsar*, the war as yet at
 the height, did diligently and seriously ad-
 vise *Cicero* by a letter, touching the com-
 posing of his countenance and gesture, to
 dignity

dignity and gravity. Now, if the management of the face and countenance alone, be of such effect, how much more, familiar speech, and other carriage, belong to conversation? And indeed the sum and abridgement of the grace and elegance of behaviour, is comprised mostly in this; the measuring in a just balance, as it were, and maintaining both our own dignity, and that of others: which is well expressed by *T. Livius* in his preface: “ Lest I should seem either arrogant, or servile: the one is the humour of a man [who is forgetful of anothers liberty; the other of a man that forgets his own.”

BUT, on the other side, if we study urbanity, and outward elegance of behaviour too much, they pass into a deformed, adulterate affectation: *Quid enim deformius, quam scenam in vitam transferre?* “ What can be a more deformed spectacle, than to transfer the scene into our common course of life?” Further, though they should not fall into that vicious extreme, yet too much time is consumed in those small matters, and the mind is depressed

pressed by the immoderate study of them; therefore, as in the Universities young students, too much addicted to keep company, are admonished by their tutors; *Amicos esse fures temporis*: "That friends are the thieves of time:" so certainly this same continual intensity of mind, upon the grace of conversation, is a great pilferer of more serious meditations. Again, such as are so exactly accomplished, and seem formed by nature for urbanity, make it their sole study, and scarcely ever aspire after more solid and higher virtues: whereas, on the contrary, those that are conscious to themselves of a defect in this, seek comeliness from a good reputation; for where a good reputation is, almost all things are becoming; but where that fails, a supply must be fetched from exactness of behaviour, and urbanity. Again, there is scarcely a greater or more frequent impediment of action, than an over-curious observance of outward decorum: and that other attendant of it, a scrupulous election of time and opportunity: for *Solomon* says excellently: *Qui respicit, ad, &c.* "He that regards the wind shall not
" sow:

“ sow : and he that regards the clouds shall
“ not reap.” For we must make opportunity,
oftner than wait for it. To conclude, this graceful
composition of behaviour is, as it were, the dress
of the mind ; and therefore ought to resemble the
good conditions of dress : for first, it ought to be
fashionable ; next, not too curious or costly ; then,
to be so contrived, as to set forth any good shape
of the mind most to view, and to supply and
hide any deformity : lastly, above all, it ought
not to be too strait, nor so to restrain the spirit,
as to check and hinder the motions thereof in
business.

O N T H E

ARCHITECT OF HIS FORTUNE.

THERE is a certain wisdom of giving counsel to others; and there is another also in planning a man's own fortune; and these sometimes meet, but are oftener severed. For many are exceeding wise in ordering their own, who are very weak in the administration of civil affairs, or giving counsel: like the ant, which is a wise creature for itself, but very hurtful in a garden. This virtue of being wise for one's self, was not unknown to the *Romans* themselves, though excellent patriots: whence the comic poet: "Certainly the mould of a wise man's fortune is in his own hands." Nay, it grew into an adage with them, "Every man is the architect of his own fortune."

THIS part of knowledge may be reckoned among the deficient: not but that it is too frequent in practice, but because
books

books concerning this argument are silent. Wherefore we will recite some heads of it, and call it, the architect of fortune; or, a doctrine concerning the course of life for advancement.

AND at the first view I shall seem to handle a new and unusual argument, in teaching men how they may be contrivers of their own fortune: a doctrine, no doubt, to which every man will willingly yield himself up a disciple, till he thoroughly sees the difficulty of it. For the requisites to the purchase of a fortune, are neither lighter nor less difficult, than to the purchase of virtue: and it is as hard and severe a thing to be a true politician, as to be truly moral. But the handling of this doctrine concerns greatly the honour of learning, that men of business may know, learning is not like some small bird, as the lark, to mount and sing, and please herself only; but that she is a kind of hawk, both to soar aloft, and opportunely stoop, and seize her prey. Perfection of learning is likewise concerned, because it is the true rule of a perfect enquiry after truth, that nothing be found in the material, that

has not a parallel in the intellectual world: that is, that there is nothing in being and action, which should not be drawn and collected into contemplation and doctrine. And yet learning does not esteem this architecture of fortune, otherwise than as a work of an inferior kind: for no man's particular fortune can be an end worthy of his being. Nay, it often happens, that men of excellent virtues abandon their fortune of their own accord, that they may have leisure for more sublime objects.

NEVERTHELESS fortune, as she is an instrument of virtue and merit, deserves to be considered in her place, and to have some instructions given about her.

THE first general precept therefore is, that to know others we procure to ourselves, in a possible degree, that window which *Momus* once required; who seeing in the frame of man's heart so many angles and recesses, found fault that there was not a window, through which a man might look into those obscure and crooked windings. This we shall obtain, if with all diligence we purchase and procure

to ourselves information touching the particular persons with whom we negotiate; as also of their natures, desires, and ends; their customs and fashions; their helps and advantages, whereby they are chiefly supported, and are strong and powerful: likewise of their defects and weaknesses, and in what part they lie most open and obnoxious; of their friends, factions, patrons, dependencies: and again, of their enemies, enviers, competitors; as also their times, and seasons of access:

Sola viri molles aditus et tempora noras.

VIRG. ÆN. IV.

—“ You only know what time is best,
“ To move the haughty foe with my request.”

LAUDERDALE.

LASTLY, the principles and rules which they have set down to themselves. Further, information is to be taken, not only of persons, but of particular actions also, which from time to time are on foot, and as it were upon the anvil; how they are conducted and succeed; by whose endeavours they are furthered; by whom they are opposed; of what

weight and moment they are; and what may be their consequence, and the like. For the knowledge of present actions is both very material in itself, and carries in it this also, that without it the knowledge of persons too, is like to be very deceitful and erroneous: for men change with their actions; and are one thing, while they are engaged and environed with business; and another, when they return to their nature.

AND that such knowledge may be compassed, *Solomon* is our surety, who says: " Counsel in the heart of man is like a deep water; but a wise man will draw it out:" And although the knowledge itself fall not under precept, because it is of individuals, yet general instructions may be given with success.

THE knowledge of men may be deduced from their faces and countenances, words, actions, tempers, and ends: lastly, from the relations of others.

As for the countenance, let not the ancient adage move us; *Fronti nulla fides*:
 " There's

“ There’s no trust to be given to the countenance:” for although this saying may be just, touching the outward and general compofure of the countenance and gesture; yet there are certain fecret and more fubtle motions and labours of the eyes, face, looks, and behaviour, by which, as *Q. Cicero* elegantly faith, “ the gate of the mind” is, in a manner, unlocked and opened.

As for mens words, they are flattering and fallacious; yet they exprefs their true fentiment when uttered, either by furprife, or in a paffion: fo *Tiberius*, being fuddenly moved and carried away a little, by a ftinging fpeech of *Agrippina*, came a ftep out of his innate fimulation: “ Thefe words,” faid *Tacitus*, “ being heard by him, drew from his dark “ breaft fuch words as he ufed feldom to let “ fall: and taking her up fharpely, he told “ her her own in a verfe; that fhe was “ therefore hurt, becaufe fhe did not reign.” Wherefore the poet does not improperly call fuch paffions tortures, becaufe they urge men to confefs their fecrets:

———*Vino tortus et ira :*

“ Rack’d by wine and anger.”

INDEED experience itself shews, that there are very few men so true to themselves, and so settled in their resolutions, but that sometimes from heat of passion, ostentation, entire good-will to a friend, weakness of mind, that can no longer hold out under the weight of thought; lastly, from some other affection and passion, they will reveal and communicate their inmost thoughts. But above all, it sounds the mind to the bottom, and searches all its folds, when simulation is attacked by a counter simulation; according to the spanish proverb, “ Tell a lie, and “ find a truth.”

NEITHER are deeds themselves, though they are the surest pledges of mens minds, altogether to be trusted, without a diligent and judicious consideration, both of their size and nature. For the saying is most true: “ Fraud erects itself credit in smaller matters, that it may cheat with better advantage afterwards.”

BUT

BUT the surest key to unlock the minds of men, turns in searching and getting thoroughly acquainted, either with their dispositions and natures, or their ends and intentions: and certainly the weaker and more simple sort of men are best interpreted by their natures; but the wiser and more reserved are best expounded by their ends. Certainly it is a frequent error, and very familiar with wise men, to measure other men by the model of their own abilities, and so often times to over-shoot the mark, by supposing men to project and design to themselves deeper ends, and to practise more subtle arts, than ever came into their heads: which the *Italian* proverb elegantly notes, saying: "That there is commonly less money, less wisdom, less honesty, than men reckon upon." Wherefore, if we are to deal with men of a mean and shallow capacity, the conjecture must be taken from the propensities of their nature, rather than from the ends they may aim at. Further, princes also, from a different reason, are best judged of by their natures; and private persons by their ends. For princes, being at the top of human desires, have commonly no particular

particular ends whereto they aspire, especially with vehemence and perseverance; by the site and distance of which, a direction and scale of the rest of their actions may be taken and made; which is one of the chief causes that their hearts, as the scripture pronounces, are inscrutable. But private persons are like travellers, who have in view some end of their journey, where they may stay and rest; from whence a man may make a good conjecture, what they will, or will not do. For it is probable, they will do nothing but what conduces to their ends: neither is the information touching the diversity of mens ends and natures to be taken only simply, but comparatively also; as what has the predominancy and command over the rest; so we see *Tigellinus*, when he saw himself outstripped by *Petronius Turpilianus* in administering and suggesting pleasures to *Nero*, “searched into *Nero*’s fears,” as *Tacitus* says, and by this means broke the neck of his rival.

As for the knowing of mens minds, by the relations of others, it shall suffice to observe, that defects and faults are best learned from

from enemies; virtues and abilities from friends; customs and times from servants; notions and studies from intimate confidants, with whom they most commonly discourse: popular fame is light, and the judgments of superiors uncertain: “the truest reports come from domestics.” But the most compendious way to this whole enquiry is, first, to have a general acquaintance and intimacy with such men as have looked most into the world, and have a general knowledge of things and persons; but especially to endeavour to have privacy and conversation with some particular friends, who, according to the diversity of business and persons, are able to give us solid information, and good intelligence in every several kind. Secondly, to keep a good mediocrity, both in liberty of speech, and taciturnity: in most things liberty; taciturnity, where there is occasion. For liberty of speech, by inviting and provoking liberty to be used again, brings much to a man’s knowledge; and secrecy, on the other side, induces trust and intimacy, and makes men love to lay up their secrets with us, as in a closet. Lastly, the reducing of a man’s self to such a watchful

ful and serene habit, as in all conferences and actions both to carry on the matter in hand, and at the same time to observe other things that fall in by the bye: for as *Epicetus* would have a philosopher, in every particular action, say to himself, “ I will do this, and yet go on in my course:” so a politician, in every particular business, should say to himself, “ I both intend to do this, “ and to learn somewhat else which may be “ of use for the future.” And therefore those men that over-do the thing in hand, and are entirely taken up with the present business, without so much as thinking of matters that intervene, (a weakness that *Montaigne* confesses in himself) are indeed the best ministers of princes, but fail in point of their own fortune. I have dwelt the longer upon this precept of obtaining good information, because it is a main part of itself, and answers to all the rest. But above all things, caution must be taken, that men have a good government of themselves, and that this knowing much, do not draw on an impertinent officiousness: for nothing is more unfortunate than light and rash intermeddling in many matters: so that this
various

various knowledge of things and persons, which we advise to be procured, tends in conclusion but to this: to make a more judicious choice both of those actions we undertake, and of those persons whose assistance we use; that so we may know how to conduct all things with more dexterity, and less error.

AFTER the knowledge of others follows the knowledge of ourselves. For no less diligence, but rather more is to be used in taking a true and exact information of ourselves, than of others: for that oracle, "Know thyself," is not only a rule of universal prudence, but has also a special place in politics. For St. *James* excellently puts us in mind, "That he that hath viewed his face in a glass, yet instantly forgets what manner of man he was:" so that there is great need of a frequent inspection: and the same holds also in politics; but the glasses indeed are different: for the divine one, in which we ought to behold ourselves, is the word of God; but the politic glass is nothing else but the state of things and times wherein we live.

THERE-

THEREFORE a man ought to take an impartial view, unprejudiced by self-love, of his own abilities, virtues, and supports; as likewise of his defects, inabilities, and impediments; estimating the latter at the most, the former at the least. And from such a view and disquisition, the following points may come into consideration.

THE first consideration should be, how a man's constitution and temper suits with the times; which if they be found agreeable and fit, then in all things he may give himself more scope and liberty, and indulge his own temper; but if there are any antipathy and dissonancy, then, in the whole course of his life, he must carry himself more cautiously and reservedly, and appear less in public. So did *Tiberius*, who being conscious to himself that his temper did not agree very well with the times, was never seen at public plays: nay, for the last twelve years successively, he came not into the senate: but, on the other side, *Augustus* lived in mens eyes; which *Tacitus* also observes: *Alia Tiberio morum via*: "But *Tiberius* was of another humour."

“mour.” The same method he took also to secure himself from dangers.

LET the second consideration be, how a man’s nature suits the professions and courses of life which are in use and esteem, and out of which he is to make his choice; that so, if he be not resolved upon any way of life, he may chuse that which is most fit and agreeable to his natural disposition; but if he be already engaged in a condition of life, to which he is not so well fitted by nature, let him withdraw on the first occasion, and take another profession, as we see was done by Duke *Valentine*, who was bred by his father to a sacerdotal profession, which afterwards, in compliance with the bent of his nature, he renounced, and applied himself to a military life; though equally unworthy the dignity both of prince and priest, since the pestilent man was a disgrace to both.

LET the third consideration be, how a man stands in comparison with his equals and rivals, who are like to be the competitors of his fortune; and let him run that course of life, wherein there is the greatest
 soli-

solitude, and in which he himself is like to be most eminent: as *Julius Cæsar* did, who at first was an orator and pleader, and was chiefly conversant in the arts of peace; but when he saw *Cicero*, *Hortensius*, and *Catulus* excel in the glory of eloquence, and no man very famous for military affairs but *Pompey*, he forsook the course he began, and bidding a farewell to civil and popular greatness, went over to the military and imperial arts, by which he ascended to the top of sovereignty.

THE fourth consideration is, that in the choice of friends and dependants a man consult his own nature and disposition; for different kinds of friends suits different persons: the solemn and secret kind some; the bold and boasting others. Certainly it is worth observing, what kind of friends *Julius Cæsar's* were; *Anthony*, *Hirtius*, *Pansa*, *Oppius*, *Balbus*, *Dolabella*, *Pollio*, and the rest. These men had this form of swearing: "So may I die while *Cæsar* lives:" shewing an infinite affection to *Cæsar*; towards others arrogant and contemptuous; and they were men, strenuous in business, but in fame and reputation nothing extraordinary.

THE

THE fifth consideration is, that a man take heed how he guides himself by example; and that he do not fondly affect the imitation of others; as if that which others can go through must needs be as open to him, never considering with himself what difference, perhaps, there is, between his and their natures, whom he has chosen for his pattern. This was manifestly *Pompey's* error, who, as *Cicero* records, was wont to say, "*Sylla* could do this, and cannot I?" Wherein he deceived himself greatly, the natures and proceedings of *Sylla* and himself, being the most unlike in the world: the one being fierce, violent, and ever pressing the fact; the other, solemn, regardful of the laws, directing all to majesty and fame; and therefore the less effectual and powerful to go through with his designs. There are more precepts of this nature; but these shall suffice for example to the rest.

NOR is the knowing of a man's self sufficient, but he must also consult with himself, how he may cleverly and prudently set forth and reveal himself; and in fine, turn, wind, and fashion himself to all occasions.

sions. As for the setting himself forth, we see nothing more usual, than for the less able man to make the greater shew: therefore it is no small gift of prudence for a man to be able to set himself forth with a kind of art and gracefulness, by aptly displaying his virtues, merits, and fortune also, as far as may be done without arrogance or satiety; and again, in the artificial covering of his weaknesses, defects, misfortunes, and disgraces; dwelling upon the latter, and presenting them in the strongest light: excusing the former, or cancelling them by some artful construction. Therefore *Tacitus* says of *Mucianus*, who was the greatest politician of his time, and the most indefatigable in business; *Omnium quæ diceret atque ageret, arte quadam ostentator*: “He was one that had
 “ the art to make the most shew of what-
 “ ever he spoke or did. This affair requires indeed some art, that it may not occasion disgust and contempt. Some kind of ostentation, however vain, seems rather a vice in morals, than in politics: for as it is usually said of slander, “Slander boldly,
 “ somewhat ever sticks;” so may it be said of ostentation, unless it be in a ridiculous
 degree

degree of deformity, boast stoutly, some impression will be left: it will certainly, with the people, though the wiser smile at it: therefore reputation won with the majority, will easily countervail the disdain of a few. Now if this ostentation of a man's self is managed with decency and discretion; for example, if it carries the appearance of a native candor and ingenuity; or if it be used at times either of danger, as by military persons in time of war, or when others are much envied; or if the words which respect a man's own praise seem to fall from him as a thing not principally intended, and without either insisting seriously, or dwelling too long upon them; or if a man at the same time blend censure and raillery with the praise of himself; or finally, if he do it not of himself, but compelled by the insolence and contumelies of others; it certainly makes a great addition to a man's reputation: and surely there are not a few, who, being more solid by nature, and consequently wanting this art of hoisting sails to their honour, suffer for their modesty by some loss of reputation.

BUT though some of weaker judgment, and perhaps too moral; may disallow this ostentation of virtue; no man will deny, but we should endeavour at least, that virtue may not through neglect lose its value; which will arise from three causes: first, when a man offers and obtrudes himself and service in matters of business unsolicited; for such offices are thought rewarded, if accepted. Secondly, when a man in the beginning of a business exerts himself immoderately, and by doing too much, will not give that which is well done leave to settle; which wins an early commendation, but in the end produces satiety. Thirdly, when a man is too quickly and lightly sensible of the fruit of his virtue, being too much elated with the praise, applause, honour, and favour yielded him; for which there is a good piece of advice: “Beware lest you seem unacquainted
 “with great matters, that are thus pleased
 “with a small matter, as if it were great.”

BUT in truth, a diligent covering of defects is of no less importance, than a discreet and dexterous ostentation of virtues; which is effected by caution, colour, and confidence.

dence. Caution is, when we prudently keep off from those things to which we are not equal: whereas bold and unquiet spirits will be thrusting themselves, without judgment, into matters that they are not used to, and so publish and proclaim their own defects. Colour is, when we sagaciously and wisely prepare and make way to have a favourable and commodious construction made of our faults and defects, as proceeding from another cause, or tending to some other purpose than is generally conceived. For as to the covers of faults the poet says well: "Many times a vice lies hid by its nearness to a virtue." Wherefore if we perceive a defect in ourselves, our endeavour must be to borrow the person and colour of the next bordering virtue, under whose shadow it may be concealed: for instance; he that is dull, must pretend gravity; he that is a coward, mildness; and so for the rest. This also is of use, to pretend some plausible cause, that induced us to forbear doing our best, and exerting our utmost strength; that so, what is not in our power may seem not to be in our will to do. As for confidence, it is indeed an impudent, but yet the surest and

most effectual remedy : namely, for a man to profess to despise, and to set at nought, what in truth he is not able to attain ; according to the principle of wise merchants, with whom it is familiar to raise the price of their own commodities, and to beat down that of others. But there is yet another kind of confidence, even more impudent than this ; which is, to face out a man's own defects, to boast of and obtrude them upon opinion, as if he conceived that he was best in those things wherein he most fails ; and in order to put this cheat upon others the more easily, to pretend a diffidence of himself in those things, wherein, in truth, he is best, as we see in the poets ; for a poet reciting his verses, if you except any particular verse, he will presently say ; “ And yet “ this line cost me more labour than any of “ the rest.” And then he will bring you some other line, as though he suspected that himself, and ask your judgment of it, which yet he knows well enough to be the best in the number, and liable to no exception at all. But above all, as to the present business of setting the fairest gloss upon himself before others, and maintaining his right in all points,

points, nothing, in my judgment, avails more, than for a man not to disarm and expose himself to injuries and contumelies, by an excessive goodness and sweetness of nature; but rather in all things to shoot out now and then some sparks of a spirit free and generous, and carrying with it as much sting as honey: which kind of fortified carriage, together with a prompt and prepared resolution to vindicate himself from affronts, is impressed upon some men by accident, and a kind of inevitable necessity, by reason of somewhat inherent in their person or fortune; as it happens in deformed persons and bastards, and in persons any way disgraced; upon which account such men, if they do not want virtue, are commonly successful.

As for the declaring of a man's self, that is a far different thing from the ostentation of it; for it refers not to mens virtues or defects, but to the particular actions of life; in which point nothing is more politic than to observe a wise and discreet mean in disclosing or concealing our thoughts touching particular actions: for although profound secrecy, and concealing of coun-

fels, and that manner of managing business, which works all in the dark, be a thing sometimes most prosperous, and to be admired; yet it often happens, that dissimulation begets errors, and ensnares the dissembler himself. For we see the greatest politicians that ever were, have made no scruple of professing freely, and without dissimulation, the ends they aimed at. Thus *L. Sylla* openly declared, “That he wished all men happy or unhappy, as they were his friends or enemies.” So *Cæsar*, when he first went into *Gaul*, boldly professed, “That he had rather be first in an obscure village, than second at *Rome*.” The same *Cæsar*, when the war was now begun, did not play the dissembler, if we hearken to what *Cicero* reports of him: “The other (meaning *Cæsar*) refuses not; nay in a manner requires to be called, what he is, a tyrant.” In like manner we see in a letter of *Cicero* to *Atticus*, how far from a dissembler *Augustus Cæsar* was; who, in his very entrance upon affairs, when he was the darling of the senate, nevertheless was wont in his harangues to the people to swear in this form: “So may I attain the
“ honours

“honours of my father:” and this was no less than tyranny itself. It is true, to abate the envy of it a little, he used at the same time to stretch forth his hand to a statue of *Julius Cæsar*’s, which was erected in the *Rostra*: and men laughing and wondering said, “Is it possible? Or did you ever hear the like?” and yet thought he meant no hurt, he did it so handsomely and ingenuously. And these were prosperous in all their doings. *Pompey*, on the other side, who tended to the same ends by ways more shaded and obscure, as *Tacitus* says of him: “More secret, but nothing better:” and *Sallust* concurs in the same charge; “Of a modest countenance, but an immodest mind;” made it his entire business by infinite stratagems, deeply hiding his desires and ambition, to reduce the republic in the mean time to anarchy and confusion; to the end she might, of necessity, cast herself into his arms, and so the sovereign power be devolved upon him against his will, in appearance, and endeavours to the contrary. And when he thought he had gained his point, by being made Consul alone, of which there was no precedent, he was not the nearer; for this reason,

reason, because those that, without a doubt, would have co-operated with him, understood him not: so that he was forced in the end to go the beaten and common track of getting arms and an army into his hands, under colour of opposing *Cæsar*. So slow, casual, hazardous, and commonly unfortunate are those counsels which are covered with profound dissimulation! And *Tacitus* seems to have been of the same sentiment in this matter, when he determines the artifice of simulation to be a wisdom of an inferior form, in comparison of political arts, attributing those to *Tiberius*, these to *Augustus Cæsar*: for speaking of *Livia*, he saith thus: "That she was a good composition of the arts of her husband, and the simulation of her son." For surely the continual habit of dissimulation is but a weak and sluggish cunning, and not greatly politic.

As to the bending and fashioning of the mind, we must indeed endeavour with all our might, that the mind be made pliant and obedient to occasions and opportunities, and that it be not any way stiff or refractory towards them. For nothing is a greater hin-

hindrance to business, or to the establishing of mens fortune, than this: *Idem manebat, neque idem decebat*: that is, when men continue the same, and follow their own bent, though occasions are changed: therefore *Livy*, when he brings in *Cato-Major* as the most expert architect of his fortune, does well to annex this, that he had a versatile wit, which he could command and turn any way: and hence it is, that grave and solemn wits, and such as cannot change, have generally more dignity than felicity. But this weakness is implanted in some men by nature, being of themselves disposed to be viscous and knotty, and unapt to turn: in others it has obtained by custom, which is a second nature, and from a conceit, which easily steals into mens minds, that they ought by no means to change a course of acting, which they have found good and prosperous by former experience. For *Machiavel* notes wisely in *Fabius Maximus*, that he was for keeping tooth and nail to his old inveterate custom of delaying and protracting the war, when the nature of the war was altered, and required brisker measures. Again, in others the same weakness proceeds from
want

want of judgment; when men do not discern in time the periods of things and actions, but turn too late, when the opportunity is slipped. Some such thing as this *Demosthenes* reprehends in his *Athenians*, saying, “ That they are like country fellows playing “ in a fencing-school, who after they have “ received a blow, turn their shield to the “ guard of that part where they were struck, “ and not before.” In others again this comes to pass, because they are loth to lose the labour taken in that way they have once entered into, nor do they know how to sound a retreat; but rather trust to get the better of occasions by their perseverance: and yet in the end, when they see no other remedy, then they come to it with disadvantage.

THERE are some particular precepts conducive to this end: the first, that this architect of his fortune should accustom his mind, to estimate and rate the price and value of things, in proportion as they conduce, more or less, to his particular fortune and ends; and that he do this substantially, and not superficially. For we shall find the logical part of some mens minds good, but the mathema-

thematical part erroneous: that is, they can well judge of consequences, but not of proportions and comparifon; preferring things of fhew and fenfe before things of fubftance and effect. So fome fall in love with accefs to princes, others with popular fame and applaufe, fupposing they are things of great purchafe, when in many cafes they are but matters of envy, peril, and impediment. So fome meafure things according to the labour and difficulty, or affiduity, which are fpent about them; and think if they are ever moving, that they muft needs advance and proceed: as *Cæfar* faid contemptuously of *Cato Uticenfis*, describing how laborious and indefatigable he was to no great purpofe: *Hæc omnia magno ftudio agebat*: “ All thefe
 “ things he profecuted with laborious ef-
 “ fort.” Hence it is that men many times abufe themfelves, in thinking if they have the favour and patronage of fome great and honourable perfon, all things muft fucceed to their defire; whereas the truth is, that not the greateft, but the fitteft inftruments, fooneft and moft happily accomplifh a work,

AND

AND for the true direction of the mathematical part of the mind; that is, for the due marshalling of mens pursuits towards their fortune, as they are more or less material; I hold the order to be this: first, the amendment of their own minds. For the remove of the impediments of the mind will sooner clear the passages of fortune, than the obtaining fortune will remove the impediments of the mind. In the second place I set down wealth and means; which perchance most men would have placed first, because of the general use they bear towards all variety of occasions. But that opinion I may condemn for the like reason that *Machiavel* does in the other, that money is the sinews of war; "Whereas," says he, "the true sinews of war are no other than the sinews of mens arms." In like manner it may be truly affirmed, that it is not money that is the sinews of fortune, but it is the sinews and steel of mens minds, wit, courage, boldness, resolution, temper, industry, and the like. In the third place I set down reputation, because of the peremptory tides and currents it has; which, if they be not taken in their due time, are seldom recovered,

it being extremely hard to play an after-game of reputation. And in the last place I set down honour, which is more easily won by any of the other three, much more by all in conjunction, than any of them can be purchased by honour. To conclude this precept, as there is order and priority in matter, so is there in time; the preposterous placing whereof is one of the most common errors; while men fly to their ends when they should study their beginnings; and do not take things in order of time as they come on, but arrange, them according to greatness, and not according to instance; not observing the good precept:

Quod nunc instat, agamus.

VIRG. *Past.* IX. 66,

———“ Let us mind our way,
“ Another song requires another day.”

DRYDEN:

THE second precept is, that we beware how, upon a sort of greatness and presumption of mind, we engage in matters too difficult; for touching mens fortune the counsel is excellent:

———*Fatis accede Deisque.*

LET

LET us look about us on every side, and observe where things are open, where shut and obstructed, where easy, where difficult; and let us not misemploy our strength, where the way is not passable. By doing thus we shall both preserve ourselves from being foiled, and win the opinion of moderation; offend the fewer, and finally acquire an opinion of felicity; while those things which naturally would, of their own accord, have come to pass, shall be attributed to our industry.

THE third precept is, that we do not always expect occasions, but sometimes provoke them, and lead them the way: which is also what *Demosthenes* intimates in high terms, that able men give the lead to, and are not led by affairs. For if we carefully attend it, we shall observe two different kinds of sufficiency in managing affairs, and handling business. For some know how to make a dexterous use of occasions, but plot and invent nothing of themselves: others are all for plots, but cannot lay hold of occasions that fall in opportunely. Either of these
abi-

abilities is very lame and imperfect without the other.

A fourth precept is, to undertake nothing that must necessarily employ a great deal of time; but to have that verse ever sounding in our ears:

Sed fugit interea, fugit irreparabile tempus.

“ But time is lost, which never will renew.”

DRYDEN.

AND the reason why those who have addicted themselves to laborious professions, as lawyers, orators, learned divines, writers of books, and the like, are less politic in building and promoting their own fortunes, is no other than this; that they want time, which is otherwise employed, to inform themselves of particulars; to wait upon occasions, and to devise and project designs which tend to the making of their fortune. Furthermore, in the courts of princes and states you will find those most expert in advancing their own fortune, and invading

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that of others, who are in no public office; but are perpetually taken up in this advancement of life that we are speaking of.

A fifth precept of this knowledge is, to imitate nature, which does nothing in vain. For a man ought, in every particular action, so to carry the motions of his mind, and to have one thing under another, as if he cannot have what he seeks in the best degree, yet to have it in a second, or even in a third: and if he can get no footing at all in the thing he purposes, then to turn the pains he has taken upon some other end, than that he first designed: and if he cannot make any thing of it for the present, yet to make it as a seed of somewhat in time to come: and if he can derive no solid effect or substance from it, neither for the present nor for the future, yet to win some good opinion and reputation by it. So that he should exact an account from himself of every particular action, to reap somewhat from it, and not to stand amazed and confounded, if he fail in the principal scope of his intentions; for nothing is more impolitic than to be wholly and solely taken up with one thing: for he that

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is so, loses infinite occasions which intervene, and are many times more proper and propitious for something he shall need afterwards, than for that which he urges for the present; and therefore men must be perfect in that rule: *Hæc oportet facere, et illa non omittere.*

A sixth precept of this knowledge is, for a man not to engage himself peremptorily in any thing, though it may seem at first sight not very liable to accident, but ever to secure a retreat.

A seventh precept of this knowledge is, that ancient precept of *Bias*, not construed to any point of perfidy, but only to caution and moderation: “Both love, as though you were to hate, and hate, as though you were to love.” For it utterly betrays all utility for men to embark themselves too far into unfortunate friendships, troublesome spleens, and humorous envies or emulations.

THOUGH I have continued this beyond the measure of an example, yet they are only

sketches of what are deficient for others to enlarge on. But as *Cicero*, when he sets down an idea of a perfect orator, does not mean that every pleader should be such; and so likewise when a prince or a courtier has been described by such as have handled those subjects, the mould has used to be made according to the perfection of the art, and not according to common practice: so I understand it, that it ought to be done in the description of a politic man: I mean politic for his own fortune.

THE precepts which we have laid down, may be called good arts: for as to evil arts, if a man becomes a disciple to *Machiavel*, he will be taught: “ that the reputation of
 “ virtue is conducive, but virtue itself in-
 “ jurious to fortune:” and “ that men are
 “ best retained in subservience to our will by
 “ fear; therefore they ought always to be
 “ involved in difficulty and danger:” so this politician seems to be what the *Italians* call, *Il seminatore delle spine*: “ a thorn-sower.” Similar is that cited by *Cicero*: “ Let our
 “ friends fall, provided our enemies perish:” and that of *Cataline*: “ If a fire be raised in
 “ my

“ my fortunes, I will extinguish it not with
 “ water, but ruin;” or the maxim of *Ly-*
sander: “ That children are to be deceived
 “ with comfits, and men with oaths;” and
 the like corrupt and pernicious positions;
 of which there are more in number than of
 the good and sound: if any man be delighted
 with such polluted wisdom, I deny not but
 such an one, dispensing with all the laws of
 charity and virtue, and being wholly enslaved
 to the pressing his fortune, may, with more
 compendiousness and speed, advance it: but
 it is in life, as it is in ways, the shortest way
 is commonly the foulest; nor indeed is the
 fairest way the most tedious.

BUT men should be so far from applying
 themselves to such corrupt and crooked arts,
 that they ought rather to set before their
 eyes, not only that general map of the world,
 “ That all things are vanity and vexation of
 “ spirit;” but many other more particular
 directions, *viz.* “ That being itself, without
 “ well-being, is a curse; and the greater
 “ the being, the greater the curse:” and,
 “ That the highest reward of virtue, is
 “ virtue herself; as also the severest punish-

“ment of vice, is vice itself:” according to what the poet says excellently:

*Quæ vobis, quæ digna viri, pro talibus ausis
Præmia posse rear solvi? Pulcherrima primum
Dii moresque dabunt vestri.*

VIRG. ÆN. IX. 217, &c.

“Ye brave young men, what equal gifts can we,
“In recompence of such desert, decree?
“The greatest, sure, and best you can receive,
“The Gods, and your own conscious worth will give.”

DRYDEN.

FURTHER, while men are turning their thoughts every way, how they may best consult their advancement in the world, they ought to look up to the divine judgments, and eternal providence, which very often subverts and brings to nought the machinations and evil counsels, though never so profound, of the wicked; according to that of scripture: “He hath conceived iniquity, and
“shall bring forth a vain thing.” Though men should refrain from injury, and evil arts, yet this restless, incessant aspiring to the height of fortune, pays not the tribute of our time due unto God: who, as we may see, demands and sets apart for himself a

tenth of our substance, and a seventh of our time. For to what purpose were it to have an erect face towards heaven, and a spirit groveling upon earth, and eating dust like the serpent? An observation which even the heathen could make:

Atque affligit humo divinæ particulam auræ.

SHOULD any man flatter himself, that he resolves to employ his fortune well, though he should obtain it ill; as was said of *Augustus Cæsar*, and *Septimius Severus*: “ That either
 “ they should never have been born, or never
 “ have died;” they did so much mischief in the pursuit of their fortune, and so much good when they were at the summit; let him take this with him, that such compensation of evil by good may be allowed after the fact, but is deservedly condemned in the purpose. Lastly, it would not be amiss for us, in this ardent pursuit of fortune, to cool ourselves a little, with that elegant conceit of the emperor *Charles the Fifth*, in his instructions to his son: “ That fortune has something
 “ of the nature of women, who for the most
 “ part scornfully turn off humble servants

“ that are too eager in their courtship.” But this last remedy is for those whose taste, from some distemper of mind, is corrupted. Let men rather build upon that foundation which is the corner-stone of divinity and philosophy : “ First seek ye the kingdom of God, and all these things shall be added unto you :” and the precept of philosophy : “ Seek first the goods of the mind, and the rest shall be supplied, or their absence shall not be prejudicial.” And altho’ the human foundation is somewhat sandy, as *Brutus* exclaimed : “ I revered thee, O virtue, as a thing sacred, but thou art an empty name :” yet the divine foundation is settled upon a rock. And here we conclude the doctrine of the course of life for advancement in the world.

O N

I N S P I R E D D I V I N I T Y .

THE prerogative of God comprehends the whole man; and extends as well to the reason, as to the will of man; to the end, that man may renounce himself wholly, and draw near unto God. Wherefore, as we are to obey the divine law, though we find a reluctance in our will; so are we to believe the word of God, though we find a reluctance in our reason. But “that faith which “ was accounted to *Abraham* for righteousness,” was of such a point as that at which *Sarah* laughed; who therein was an image of natural reason. For if we consider the thing aright, it is more worthy to believe than to know; as we now know; since in knowledge man’s mind suffers from sense; but in belief it suffers from spirit, and such an one as it holds far more authorised than itself, and so suffers from the worthier agent. The case is otherwise in the state of glory;
for

for then “faith shall cease, and we shall
“know, as we are known.”

WHEREFORE we may conclude, that sacred theology must be drawn from the word of God, not from the light of nature, or the dictates of reason. For it is written, “The
“heavens declare the glory of God:” but we find it no where written, the heavens declare the will of God. Of this it is pronounced: *Ad legem et testimonia; si non fecerint secundum verbum illud, &c.* Nor does this hold only in those great mysteries of the Deity, of the creation, of the redemption, but appertains also to the moral law, truly interpreted. For it must be confessed, that a great part of the moral law is of that perfection whereunto the light of nature cannot aspire. Though men have, even from the light and law of nature, some notions of virtue, vice, justice, wrong, good, and evil, the light of nature is to be understood in two senses: first, as it springs from sense, induction, reason, argument, according to the laws of heaven and earth: secondly, as it is imprinted and shines upon the spirit of man, by an inward instinct, according to the law
of

of conscience, which is a kind of spark and relic of his former and primitive purity: in which latter sense chiefly the soul participates of some light to behold and discern the perfection of the moral law; which light however is not altogether clear, but of such sort as rather to check the vice, than fully to inform the duty: so then the doctrine of religion, as well moral as mystical, depends upon divine revelation.

THE use notwithstanding of human reason in spiritual things, and the latitude of it, is very great and general: hence the Apostle calls religion, “our reasonable service of God.” Nay, the very ceremonies and figures of the old law were full of reason and signification, much more than the ceremonies of idolatry and magic, which were mute, not teaching, or even insinuating any thing: but the Christian faith as in all things, so particularly in this, deserves to be highly magnified, because it holds and preserves the golden mediocrity, as to the use of reason and disputation, which is the offspring of reason, between the law of the Heathen, and the law of *Mahomet*, which have embraced
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the two extremes: for the religion of the Heathen had no constant belief or confession, but left all to the liberty of argument; and the religion of *Mahomet*, on the other side, interdicts argument altogether; the one having the very face of error; the other of imposture: whereas the Christian faith both admits and rejects disputation, but according to due bounds.

THE use of human reason, in matters pertaining to religion, is of two sorts: the one, in the conception and apprehension of the mysteries of God revealed to us; the other, in the inferring and deriving of doctrine and direction from them. As to the conception of the mysteries, we see God vouchsafes to descend to the weakness of our capacity, so expressing and unfolding his mysteries, as they may best be comprehended by us; and grafting, in a manner, his revelations, and holy doctrine, upon the conceptions and notions of our reason; and so applying his inspirations to open our understanding, as the form of the key is fitted to the ward of the lock. In which respect notwithstanding we ought not to be wanting to ourselves; for

for since God himself makes use of the means of our reason in his illuminations, we ought also to exercise and turn the same every way, by which we may become more capable to receive and imbibe the holy mysteries; with this caution, that the mind be dilated, according to its model, to the amplitude of the mysteries; and not the mysteries straitened and contracted to the narrowness of the mind.

As for inferences, we ought to know, that there is allowed us a use of reason and argumentation in mysteries secondary and respective, though not original and absolute. For after the articles and principles of religion are once placed, and wholly exempted from the examination of reason, it is then permitted unto us to make deductions and inferences from them, and according to the analogy of them, for our better direction. In things natural indeed this holds not; for both the principles themselves are examinable by induction, though not by syllogism: and besides, those principles, or first positions, have no repugnancy with that reason which draws down and deduces the inferior positions.

tions. The case is otherwise in religion, where both the first positions are their own supporters, and subsist by themselves; and again, they are not regulated by that reason which deduces the consequent propositions. Nor does this hold in religion alone, but in other sciences also, both of greater and smaller nature; namely, wherein there are not only positions, but acts of authority; for in such also there can be no use of absolute reason: so in human laws, there are many grounds and maxims, which are, *placita juris*, positive upon authority, and not upon reason; and therefore not to be disputed: but what is most just, not absolutely but relatively, and according to the analogy of those maxims which affords a large field of disputation. Such therefore is that secondary reason that has place in divinity, which is grounded upon the *placits* of God.

AND as there is a double use of human reason in divine matters, so in the same use also there is a double excess: the one, when too curious an enquiry is made into the manner of the mystery; the other, when as great authority is attributed to inferences as to principles.

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We have an instance of the first in *Nicodemus*, who obstinately enquires, “How can a man be born when he is old?” Of the second, in those who arrogantly vouch their opinions by anathemas: it would therefore be a wholesome and very useful course, if a sober and diligent treatise was compiled, which might give directions concerning the true limits and use of reason in spiritual things; and would be a kind of opiate medicine, not only to quiet and lay asleep the vanity of curious speculations with which the schools labour, but likewise to calm and mitigate the fury of controversies, wherewith the church labours. For it cannot but open mens eyes to see that many controversies do merely relate to that which is either not revealed or positive; and that many others do grow upon weak and obscure inferences or deductions. So it is a thing of great moment and use well to define what, and of what latitude those points are, which disincorporate men from the body of the church, and exclude them from the communion and fellowship of the faithful. Now, if any one thinks this has been done long ago, let him well consider with what sincerity and moderation. In the mean time it is likely,

likely, that he who makes mention of peace, will receive *Jehu's* answer to the messenger, "Is it peace *Jehu*?" "What hast thou to do with peace? Turn, and follow me." Peace is not the thing that most people love, but party.

SEEING the parts of holy scripture, as to the information of theology, are so great, we ought especially to consider their interpretation. Nor do we here speak of the authority of interpreting them, which is established in the consent of the church, but of the manner of interpreting them. This is of two sorts; methodical and solute, or at large; for these divine waters, which infinitely excel those of *Jacob's* well, are drawn forth much in the same manner, as natural waters used to be out of wells, which are either forced up into a cistern, and so conveyed and derived by pipes for public and private use; or else are drawn in vessels where they spring, for occasional use. The former sort of which, though it seems to be the more ready, yet in my judgment, is more subject to corruption. This is that method which has exhibited unto us the scholastic divinity, whereby
divinity

divinity has been reduced into an art, as into a cistern; and the streams of axioms and positions derived and distributed from thence unto all parts.

IN this men have sought three things; a summary brevity, a compacted strength, and a complete perfection: the two first of which they fail to find, and the last they ought not to seek. As to brevity, we see in all summary methods, while men propose to abridge, they give cause to dilate; for the sum or abridgment by contraction becomes obscure, the obscurity requires exposition, and the exposition is deduced into large commentaries, or into common places and titles, which grow larger than the original writings, whence the summary was extracted. So we see the volumes of the School-men are much greater than the first writings of the fathers, whence the master of the sentences made his sum or collection: so in like manner the volumes of the modern doctors of the civil law, exceed those of the ancient juriconsults, of which *Tribonian* compiled the digest. So that this course of sum and commentaries is that which does infallibly make

the body of sciences more immense in quality, and more base in substance.

AND for strength, it is true, that knowledge reduced into exact methods have a shew of strength, in that each part seems to support and sustain the other: but this is more satisfactory than substantial, like unto buildings which stand by architecture and compaction, which are more subject to ruin than those that are built stronger in their several parts, though less compacted. But it is plain, that the more you recede from your grounds, the weaker you conclude; and as in nature the more you remove yourself from particulars, the greater peril of error you incur: so much more in divinity, the more you recede from the scriptures by inferences and consequences, the more weak and dilute are your positions.

As for perfection or completeness in divinity, it is not to be sought, which makes this course of artificial divinity the more suspected; for he that will reduce a knowledge into an art, will make it round and uniform: but in divinity many things must be left
abrupt,

abrupt, and concluded with this: "O the
" depth of the wisdom and knowledge of
" God, how unfathomable are his judg-
" ments, and his ways untraceable!" So
again the Apostle says, "We know in part;"
and to have the form of a whole, where
there is but matter for a part, cannot be
without supplies by supposition and pre-
sumption; and therefore I conclude, that
the true use of these summary methods has
place in institutions or introductions pre-
paratory to knowledge: but in them, or
by deducement from them, to handle the
main body and substance of knowledge, is
in all sciences prejudicial, and in divinity
dangerous.

As to the interpretation of the scriptures
solute and at large, there have been various
kinds devised, some of them rather curious
and unsafe, than sober and warranted. How-
ever it must be confessed, that the scrip-
tures being given by inspiration, and not
by human reason, differ from all other
books in the author; which consequently
draws on some difference to be used by the
expositor: for the inditer of them did know

four things which no man attains to know: these are, the mysteries of the kingdom of glory; the perfection of the laws of nature; the secrets of the heart of man; and the future succession of all ages. As to the first, it is said, "He that presseth into the light, shall be oppressed of the glory." And again; "No man shall see my face and live." To the second; "When he prepared the heavens I was present, when by law and compass he enclosed the deep." To the third; "Neither was it needful that any should bear witness to him of man, for he knew well what was in man." And to the last; "From the beginning are known to the Lord, all his works."

FROM the former two of these have been drawn certain senses and expositions of scripture, which had need be contained within the bounds of sobriety; the one spiritual, and the other philosophical. As to the former, man is not to anticipate the time "when we shall see face to face, now we see through a glass darkly:" nevertheless, there seems to be a liberty granted to the polishing of this glass, or some moderate expli-

explication of this obscurity. But to press too far into it cannot but cause a dissolution and overthrow of the spirit of man; for in the body there are three degrees of what we receive into it; aliment, medicine, and poison: aliment is that which the nature of man can perfectly alter and digest; medicine that which is partly converted by nature, and partly converts nature; and poison is what works wholly upon nature, but on which nature can have no effect: so in the mind, whatever knowledge reason cannot at all work upon and convert, is a mere intoxication, and endangers a dissolution of the mind and understanding. But the latter doctrine has been lately instituted by the school of *Paracelsus* and others, who have pretended to find the truth of all natural philosophy in the scriptures; scandalizing and traducing all other philosophy as heathenish and profane. But there is no such enmity between God's word and his works: neither do they give honour to the scriptures, as they suppose, but debase them. For to seek heaven and earth in the word of God, whereof it is said, "heaven and earth shall pass, but my word shall not pass," is to

seek temporal things among eternal: and as to seek divinity in philosophy is “to seek
“the living amongst the dead:” so to seek philosophy in divinity is to seek the dead among the living. Neither are the pots or lavers, whose place was in the outward part of the temple, to be sought in the holiest place of all, where the ark of the testimony was seated: neither is the scope or purpose of God to express matters of nature in the scriptures, otherwise than in passage, and for application to man’s capacity, and to matters moral or divine. And it is a true rule: *Authoris aliud agentis parva autoritas*. For it were a strange conclusion, if a man should use a similitude for ornament or illustration’s sake, borrowed from nature or history, according to vulgar conceit, as that of a basilisk, an unicorn, centaur, briareus, or an hydra, that therefore he must be thought to affirm the matter thereof positively to be true. To conclude therefore these two interpretations, the one by reduction or ænigmatical, the other philosophical or physical, which have been received and pursued in imitation of the *Rabbins* and *Cabalists*, are to be confined with a *Noli altum sapere, sed time*:
“Do

“ Do not carry your enquiries too high, but
“ be cautious.”

BUT the two latter points known to God and unknown to man, touching the secrets of the heart, and the successions of time, make a just and sound difference between the manner of the exposition of the scriptures, and all other books; for it is an excellent observation, which has been made upon the answers of our Saviour Christ, to many of the questions which were propounded to him, that they are impertinent to the state of the question demanded; the reason is, because not being like man, who knows man's thoughts by his words, but knowing their thoughts immediately, he never answered their words, but their thoughts. Much in the like manner it is with the scriptures, which being written to the thoughts of men, and to the succession of all ages, with a foresight of all heresies, contradictions, differing states of the church, and particularly of the elect, are not to be interpreted only according to the latitude of the proper sense of the place, and respectively

towards that present occasion whereupon the words were uttered; or in precise congruity and contexture with the words before or after, or in contemplation of the principal scope of the place, but have in themselves not only totally or collectively, but distributively in clauses and words, infinite springs and streams of doctrine to water the church in every part: and therefore as the literal sense is like the main stream or river: so the moral sense chiefly, and sometimes the allegorical or typical are these, of which the church has most use; not that I wish men to be bold in allegories, indulgent, or light in allusions; but that I do much condemn that interpretation of the scripture, which is only after the manner of men, in the interpretation of a profane book.

BUT that form of writing in divinity, which in my judgment is, of all others, the most rich and precious, is positive divinity collected upon particular texts of scripture in brief observations, not dilated into common places involved in controversies, nor reduced into method of art; that abounds
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in sermons which will vanish, but defective in books which will remain, and wherein this age excels; for I am persuaded, and I may speak it with an *Abfit invidia verbo*, and no ways derogatory to antiquity, but as in a good emulation between the vine and the olive; that if the choice and best of those observations upon texts of scripture, which have been made dispersedly in sermons for the space of these forty years and more, (leaving out the largeness of exhortations and applications of them) had been set down in a continuance, it had been the best work of divinity which had been written since the time of the Apostles. And certainly as wines which at the first treading run gently, are pleasanter than those forced by the wine-press, for these taste of the stone and skin of the grape; so those doctrines are exceeding wholesome and sweet, which flow from scriptures gently pressed, and are not wrested to controversies or common-places. Such a treatise we will term the emanation of scripture into positive doctrines,

ON THE MATTER OF DIVINITY.

THE matter informed or revealed by divinity is of two kinds; matter of belief, and truth of opinion, matter of service and adoration, which is also judged and directed by the former; the one being as the internal soul of religion, and the other as the external body thereof; therefore the heathen religion was not only a worship of idols, but the whole religion was an idol in itself; for it had no soul; that is, no certainty of belief or confession, as a man may well think, considering the chief doctors of the church were the poets; and the reason was, because the heathen Gods were not jealous Gods, but were glad to be admitted into part, as they had reason: neither did they respect purity of heart, so they might have external honour and rites,

BUT out of these two do result and issue four main branches of divinity; faith, morals, liturgy, and government. Faith contains

tains the doctrine of the nature of God, the attributes of God, and of the works of God. The nature of God consists of three persons in Unity of Godhead. The attributes of God are common to the Deity, or respective to the Persons. The works of God summary are two, that of the creation, and that of the redemption: and both these works, as in total they appertain to the unity of the Godhead; so in their parts they refer to the three persons: that of the creation in the mass of the matter, to the Father; in the disposition of the form, to the Son; and in the continuance and conservation of the being, to the Holy Spirit: so that of the redemption, in the election and counsel, to the Father; in the whole act and consummation, to the Son; and in the application, to the Holy Spirit; for by the Holy Ghost was Christ conceived in flesh, and by his operation are the elect regenerated in spirit. This work likewise we consider either effectually in the elect, or privately in the reprobate, or according to the appearance in the visible church,

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For morals, the doctrine thereof is contained in the law, which discloses sin. The law itself is divided, according to the edition thereof, into the law of nature, the law moral, and the law positive; and according to the style, into negative and affirmative, prohibitions and commandments. Sin in the matter and subject thereof, is divided according to the commandments: in the form, it refers to the three persons in Deity; sins of infirmity against the Father, whose more special attribute is power; sins of ignorance against the Son, whose attribute is wisdom; and sins of malice against the Holy Ghost, whose attribute is grace or love. In the motions of it, either to blind devotion, or to profane and libertine transgression, either in imposing restraint, where God grants liberty, or in taking liberty, where God imposes restraint. In the degrees and progress of it, it divides itself into thought, word, or act: and in this part I commend much the deducing of the law of God to cases of conscience, for that I take indeed to be a breaking, and not exhibiting whole, the bread of life. But that which quickens both these
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doctrines of faith and manners is, the elevation and consent of the heart, to which appertain books of exhortation, holy meditation, christian resolution, and the like.

For the liturgy or service, it consists of the reciprocal acts between God and man; on the part of God, are the preaching of the word, and sacraments, which are seals to the covenant, or as the visible word: and on the part of man, invocation of the name of God, and under the law, sacrifices, which were as visible prayers or confessions; but now the adoration being in spirit and truth, there remain only the offerings of the lips, although the use of holy vows, thankfulness and retribution may be accounted also as sealed petitions.

AND for the government of the church, it consists of the patrimony, franchises, offices, jurisdictions, and the laws of it, directing the whole: all which have two considerations; the one in themselves, the other, how they stand compatible and agreeable to the civil state. This matter of divinity is handled either in form of instruction of truth, or of
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confutation of falsehood. The declinations from religion, besides the primitive, which is atheism, and the branches thereof, are three; heresies, idolatry, and witch-craft: heresies, when we serve the true God with a false worship: idolatry, when we worship false Gods, supposing them to be true; and witch-craft, when we adore false Gods, knowing them to be wicked and false; for witch-craft is the height of idolatry. And yet we see though these are true degrees, *Samuel* teaches us that they are all of a nature, when once there is a receding from the word of God; for he saith, *Quasi peccatum ariolandi est repugnare, et quasi scelus idolatriæ nolle acquiescere.*

THESE things I have passed over so briefly, because I can report no deficiency concerning them; for I find no space of ground that lies vacant and unfown in the matter of divinity; so diligent have men been, either in sowing good seed, or in sowing tares.

THUS have I made it as it were a small globe of the intellectual world as faithfully
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as I could, together with a designation and description of those parts which I find either not constantly occupied, or not sufficiently improved, by the industry and labour of man: in which work, if I have, in any point, receded from the opinion of the ancients, I would have it interpreted as done with a design of proceeding in *melius*, not in *aliud*, with purpose of amendment and proficiency, and not of change and innovation. For I could not be true to myself, nor to the argument I handle, if I were not willing to go beyond others, but yet not more willing than to have others go beyond me again; which may the better appear by this, that I have propounded my opinions naked and unarmed, not seeking to pre-occupy the liberty of mens judgments by disputatious confutations. For in any thing that is well set down I am in good hopes, that if the first reading moves an objection, the second reading will make an answer: and in those things wherein I have chanced to err, I am sure I have offered no violence to truth by litigious arguments, which certainly have this contrary effect and operation, that they add authority
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to error, and destroy the authority of that which is well invented; for controversy is an honour to falsehood, as on the other side it is a repulse to truth. But the errors I claim and challenge to myself are my own. The good, if any be, is due, *tanquam adeps sacrificii*, to be incensed to the honour first of the Divine Majesty, and next of your Majesty, to whom on earth I am most bounden.

DEO GLORIA!

THE
HISTORY
OF
LIFE AND DEATH.

ANTIENT is the saying and complaint, that life is short, and art long. Therefore our labours intending to perfect arts, we should, by the assistance of the author of truth and life, consider by what means the life of man may be prolonged. For long life being an increasing heap of sins and sorrows lightly esteemed of Christians aspiring to Heaven, should not be despised, because it affords longer opportunity of doing good works. Moreover *Amatus* survived the other disciples, and many fathers; especially many holy Monks and Hermits, lived very long, whereby it seems that this blessing of long life (so often repeated in the law) was after our Saviour's time less diminished than other earthly benedictions. But the happiness of long life is naturally

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desired, although the means to attain it, through false opinions and vain reports, be hard to find; the general opinion of physicians concerning radical moisture, and natural heat being deceiveable, and the immoderate praise of chymical medicine possessing others with hopes which prove fallacious.

THAT which admits reparation, remaining whole and sound in essence, may be eternally preserved, as the vestal fire, whereupon physicians and philosophers perceiving that the bodies of living creatures, being nourished, repaired, and refreshed, grew old afterwards, and speedily perished; they sought death in an irreparable subject, supposing radical moisture incapable of solid reparation, from infancy there being no just reparation, but an unlike addition, sensibly decayed by age, and at last corrupted and dissolved. This conceit of theirs was ignorant and vain, for young living creatures being all over and wholly repaired, do by their increasing in quantity, and growing better in quality, shew that if the measure and manner of repairing decayed not, the matter of it might be eternal. But the decay in repairing proceeds from its

inequality of some parts sufficiently, others hardly and badly in age, the bodies of men beginning thereby to undergo *Mezeitius's* torment, living in the embraces of the dead until their total extinction, though easily reparable, yet through some particular difficulty in the nutrition, decay. For spirits, blood, flesh, and fatness, are in the declining estate of age easily replenished, but there is much difficulty and danger in repairing the dry and porous parts, as membranes, tunics, nerves, arteries, veins, gristles, most of the bowels, and all the organical and instrumental parts. For when those parts that should perform their office, to other actually reparable parts, being decayed in strength cannot execute their office, a general ruin follows, and parts naturally restorable, through defective organs of reparation, decrease and decay. For the spirit, like a light flame, continually feeds on bodies, and the external air conspiring therewith, sucks and dries the fabric and instruments of the body, which are thereby decayed, and made unfit to perform the office of repairing. And these are the true ways

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whereby natural death approaches, deserving due consideration: For how can nature's course, if unknown, be helped or prevented: therefore the means whereby the consumption, or decay of man's body may be prevented, and the repairing thereof furthered, are most precious, and worth knowing. The spirits and air without are the chief causes of consumption, and the general progress of nourishment is the cause of restoration. For the spirit within and the air without, works on dead bodies, striving also to produce in living bodies the same effects, though weakened and restrained by the vital spirits, and partly increased by them. For bodies without life do a long while subsist and endure without reparation: but the life of creatures, without due nourishment and reparation suddenly decays, and is extinguished like fire. Therefore a twofold search is required, considering man's body as lifeless and unnourished; and as living, and nourished.

ON THE DURABILITY OF NATURE.

METALS are very durable, and continue beyond all observation, age and rust, not perspiration making them decay, gold excepted.

Quick-silver being a moist and soft substance, is easily rarified by the fire, but without fire neither decays by age or gathers rust.

THE harder sort of stones, and many Minerals, though exposed to the open air, are very durable, though much more so lying in the earth.

STONES gather a kind of solder instead of rust; but pearls and crystal, though their clearness decays through age, are more durable than Metals.

STONES on the north side of pyramids, churches, and other buildings, decay sooner than on the south-side, and consume; but iron, as appears by iron bars of windows, on the south-side begin sooner than the north-side to rust. For in all putrefaction (as rust) moisture hastens dissolution, and dryness withering.

THE stocks and bodies of hard trees being felled, and hewn into timber, or framed into works, last many ages, yet their bodies differ; some being hollow, as the elder-tree, outwardly hard, but having a soft pith in the middle. But of solid trees, such as the oak, the inward part (called the heart of the oak) is hardest.

THE leaves and stalks of plants and flowers continue not long, but either dissolve into dust, or rot: roots are more durable.

BONES of living creatures last long, as appears by dead bones lying in charnel-houses. Horns also are very durable, and teeth, as ivory, and sea-horse teeth.

HIDES also and skins endure long, as it is evident by ancient parchment-books: paper also will last many ages, though not so long as parchment.

GLASS and burned bricks, also roasted flesh and fruits last longer than raw, because the roasting prevents putrefaction; and by evacuating and venting the watery humour, preserves longer the oily humour.

WATER is soonest devoured and dried by the air; oil on the contrary, evaporates slowly,

slowly, which in liquors and mixtures may be discerned. For paper wetted with water is at first transparent, but afterward waxes white and clear again, losing that former transparency, the vapour of the water being exhaled: but paper dipped in oil, is a long while transparent, the oil not being exhaled: so that writings, by laying on them an oiled paper, and carefully drawing the letters discerned through the paper, may be counterfeited.

ALL Gums are very durable, as also wax and honey.

OTHER accidents also, as well as their own nature, make bodies endure or decay. For wood and stones, lying continually in the water, or air, endure longer than if they were sometimes wet and over-flowed; and stones placed in buildings north or south, as they lye in the mines, are more durable; and plants live longer being removed and transplanted.

OBSERVATIONS.

IT is a certain position, that all bodies which may be touched, have a spirit with

tangible parts, covered and inclosed, being the original cause of dissolution and consumption, prevented by detaining of the spirit.

THE spirit is detained, either violently when condensed and confined, or voluntarily; the spirits being slack, and inactive in motion, and the air does not urge it to vent and issue forth: for hardness and oilyness being durable qualities, do bind, supple, and feed the spirit, and keep it from the corruption of the air, which is in substance like water, as flame to oil.

OF THE LONGEVITY OF PLANTS.

COLD Herbs with their roots and stalks do every year spring, and die; as lettuce, purslane, wheat, and all kind of corn: yet the colder sort of herbs endure three or four years, as the violet, strawberry, primrose, burnet, and sorrell: but borage and bugloss are short lived; borage living a year, bugloss somewhat longer.

HOT herbs bear their age and years better, as hyssop, thyme, savory, marjoram, balm, mint, worm-wood, germander, sage, &c.
Fennel,

Fennel, after the stalk is dead, buds forth again from the root: but pulfe and sweet marjoram can better endure age than winter, and will live and flourish being set in a warm place, and defended from cold. For a knot of hyssop, an usual ornament of gardens, being twice clipped yearly, has continued forty years.

Bushes and shrubs live threescore years, and some double as much. A vine of sixty years old is fruitful in age: rosemary well set and planted, lives sixty years: but bears-foot and ivy endure above an hundred years. The age of the respsals is not discerned, because the head bending to the earth, gets new roots hard to be perceived from the old.

THE oldest great trees are, the Oak, the Holm, wild-Ash, Elm, Beech, Chestnut, Plane-tree, Fig-tree, Lot-tree, wild-Olive, Palm, and Mulberry; some whereof live 800 years, and others 100.

THE wood of sweet rozen trees is more durable than themselves are in age; also the Cypruss, Maple, Pine, Box, and Juniper, live not so long as the former trees, but the tall Cedar is as long-lived.

THE Ash forward in bearing fruit, reacheth to 100 years or more, and also the Cane, Maple, and Service-tree. But the Poplar, Willow, Sycamore, and Walnut-tree, live not so long.

THE Apple, Pear, Plumb-tree, Pomegranate, Orange, Citron, Medlar, Dog-tree, and Cherry-tree, being cleared from moss, may live fifty or sixty years.

GREAT trees are generally long lived, and of a hard substance; Mast-trees, and Nut-trees live longer than fruit, and Berry-trees: and those whose leaves, push out slowly, and fall off, continue longer than trees more forward in producing fruit and leaves: also wild forest-trees live longer than orchard trees, and sharp fruit-trees than sweet fruit-trees.

OBSERVATIONS.

ARISTOTLE well observed the difference between plants and living creatures, in respect of nourishment and repairing; namely, that the body of living creatures is confined within certain bounds, and coming to a due proportion, is continued and preserved

served by nourishment : nothing that is new growing forth, except hair and nails, accounted excrements, whereby the vigour and strength of living creatures must necessarily sooner decay and wax old : but trees putting forth new boughs, branches, and leaves, those renewed parts being young, green, and flourishing, more strongly and cheerfully attract nourishment than dry branches, whereby the body, through which such nourishment passes to the boughs, is moistened with more plentiful nourishment. This (though not observed by Aristotle, nor clearly discussed) is evident, because woods and trees, by lopping their boughs and branches, flourish more, and live longer.

OF DRYNESS.

BY fire and vehement heat some substances are dried, others melted.

It dries the earth, stones, wood, cloth, and skins, and melts metals, wax, gum, suet, and the like.

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BUT fire being vehement, at last dries up that which it has melted: for a hot fire makes metals (except gold) by evaporation lighter in weight, and more brittle. And only oily substances are by a hot fire fried and roasted, becoming more dry and hard.

THE open air dries, but never melts; as highways, and the face of the earth wet with showers, are hereby dried; and also linen-cloaths hanged out in the air, and herbs, leaves, and flowers growing in the shade: and the air warmed with the Sunbeams, (not disposing it to putrefaction) or moved with winds, dries much more on an open plain.

AGE is a great but slow drier; for all natural bodies not rotting or putrefying, are dried by age, being the measure of time; and the effect of the in-bred spirit of bodies, sucking out the bodies moisture, thereby decaying, and of outward air, multiplying above the inward spirits and moisture of the body, and so destroying them.

COLD most properly dries, for dryness proceeds from shrinking and gathering together, being the proper effect of cold: but by the powerful warmth of fire, abating the weak-

er cold of winter, frost, and snow, the dryness of cold is not on men so powerful, but sooner dissipated: yet frost, and March winds being dry and cold, lick up moisture, and dry the earth more than the sun.

Chimney-smoak is a drier; for bacon and neats tongues are hung and dry'd in chimnies, and perfumes of sweet-wood and *Olibanum* drying the brain, stops distillations and *Catarrhs*.

Salt dries slowly both without and within, making salt fish, through long salting, hard within.

By the application of some hot gums and binding waters the skin is dried, and filled with wrinkles.

THE spirit of strong wine drying like fire, will make the yolk of an egg put into it, become white, and bake bread.

Powders dry, and suck up moistures like sponges, or as sand-dust thrown on a writing, dries the ink: also the smoothness and uniformity of a body (not admitting moisture to enter by the pores) accidentally causes dryness, by exposing the body to the air; as jewels, looking-glasses, and sword-blades, being breathed on, seem at first to be covered

ed with a vapour, which vanishes afterwards like a cloud.

IN the east part of Germany, granaries are usually made in cellars under ground, wherein wheat and other grains are kept in straw, which being laid to a good thickness, expels and drinks up the moisture of the vault. Corn is kept thus twenty or thirty years from putrefaction, and both green and serviceable to make bread. The like granaries have been used in divers countries, as in *Cappadocia*, *Thrace*, and also in *Spain*.

FRUITS, as Pomegranates, Citrons, Melons, Pears, and the like, and also flowers, as Roses and Lillies, will keep long in earthen vessels well stopped, although the air, their outward enemy, lets in through the vessel unequal heat and cold. Therefore lay the vessels closely stopped, in the earth, or in shaded waters, as in the wells or Cisterns of houses; but let fruits laid thus in water, be put in glass-vessels rather than earthen.

GENERALLY, whatsoever is laid under the earth, and in cellars under ground, or deep in waters, retains natural vigour longer, than if kept above the earth.

BUNCHES

BUNCHES of grapes in the country, kept in meal, will taste somewhat unpleasant, but are thereby preserved moist and green, also all hard fruits will keep long in meal, or saw-dust, or in a heap of sound corn.

FRUITS in liquors of their kind, resembling their flowers, will keep fresh, as Grapes in Wine, Olives in Oil, &c.

Pomegranates and Quinces keep long, being lightly dipped into the sea-water, or salt water, and then dried in the open air.

FRUITS laid in Wine, Oil, and Pickle, are thereby long kept, Honey, and spirits of wine, preserve them longer, but especially Quick-silver.

FLIES, Spiders, and Ants, being accidentally drowned, and buried in amber, and the gums of trees, their soft and tender bodies never rot or corrupt.

THE nature also and quality of the nourishment, as of the flame, makes candles burn long; wax being more durable than fuet; and wet, than dry fuet; and hard, than soft wax.

Trees, the earth about their roots being not every year, but every five or ten years
opened,

opened, and the superfluous boughs and branches cut away and pruned, will last the longer. Also dunging and spreading of Marle about trees, or much watering makes them fruitful, but not durable.

Willow-twigs, serving usually to bind trees, steeped in water, become more flexible: rods are set in pitchers of water to keep them from drying, and bowls cleft with dryness, being laid in the water close again.

OLD trees having stood long without removing, if the earth be opened about their roots, will begin to put forth, and flourish.

OLD spent oxen taken from the plough, being put into fresh pastures, recover new tender flesh, and as sweet as if it were of a steer.

OBSERVATIONS.

MEN, like owls, wondrous sharp-sighted in the darkness of their own opinions, are blinded with the day-light of experience.

THE quality of dryness, in consuming and destroying the texture of bodies, has been
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generally observed; but its gradual process in producing that effect has not been noticed. The natural spirits contained in bodies are the original causes of it; first, in the refining moisture into spirit; secondly, by their evaporation; thirdly, by the solid particles approaching to one another from that evacuation. The spirits enclosed in every tangible body are perpetually employed in altering and converting to themselves the particles capable of digestion; and therefore encrease their quantity: this is evident from substances losing their weight by dryness; becoming hollow and full of pores, and yielding an inward sound: for by refining and converting to themselves the gross moisture of bodies, they become lighter. The evaporation of the spirits is evident from steams and vapours, or by the smell of decaying odours; but in age, by a gradual and insensible perspiration. Moreover, in close compact bodies, finding no pores to escape through, they expel the particles that resist their motion to the surface; which produces rust in metals, and mouldiness in unctuous substances.

THE contraction of bodies, from the spirits flying off, though more obscure in the opera-

tion, is no less certain; for the solid particles contract and approach nearer to one another, in order to fill the vacant spaces the spirits formerly occupied. This is evident from wooden substances shrinking, and sometimes opening into clefts. It is further evident by withered bodies growing shrivelled. For by contraction some parts are separated, and others drawn close into wrinkles; such as paper, parchment, and others, when exposed to fire shrivel up; for heat produces suddenly, what is slowly and insensibly performed by age. When the spirits and moisture in bodies are entirely exhausted, the parts no longer uniting are resolved into a mass of dust, which dissipate by the touch: such as burnt paper, embalmed carcases &c.

FIRE produces dryness only accidentally; for by refining the spirits they fly off, and the solid particles unite to fill the vacuities. Dryness and putrefaction, though arising from the same cause, are different; for in the latter some parts are detained, which, by an insensible operation on the particles that have not changed their place by contraction, produce an uniformity in the whole mass.

DURATION OF LIFE IN ANIMALS.

CONCERNING the length and shortness of life in living creatures, observations are light and fabulous: the unkindly life of tame creatures being corrupted, and the life of wild beasts by enduring hard and hot weather, shortened. Neither do the greatness of their bodies, time of bearing, number of young ones, or time of growth, sometimes concurring together, sometimes disjointed, afford any certain observations.

OF all living creatures, except some few, it is reported, that man lives longest, in whom all concomitant accidents meet in due proportion: stature great and large; bearing in the womb nine months, one off-spring commonly; growth till twenty.

THE Elephant lives longer than any man does ordinarily: his bearing in the womb ten years is a fabulous report, or above a year. His bulk or body is exceeding great, growing twenty years; and his teeth are very strong. The Elephant is observed to

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have the coldest blood of all other living creatures, and an hundred years, to which sometimes he attains, is his age.

Lions are accounted long lived, many having been found toothless, caused perhaps by their violent breathing, and therefore is no certain sign of age.

THE bear is a great sleeper, a slow and sluggish beast, born by the dam not above forty days, being a sign of short life.

THE fox is well skin'd, feeds on flesh, and lives in caves, but not long lived, being a kind of dog, which is a short lived beast.

THE Camel being a slender strong beast, lives ordinarily fifty years, sometimes an hundred.

THE Horse seldom attains to forty years of age, his ordinary age being twenty years, but grows until he is six years old; and a mare goes eleven months, and hath seldom two foals.

THE Ass lives as long as the horse, but the Mule is longer lived than both.

THE Hart is famous for his long life; for about the neck of a hart a chain hid, and covered over with fat was found, which had been put on many years before. But because at five years the hart comes to perfection,

fection, and his horns having at first but a few branches, do then sprout forth, and afterwards fall off, and grow again every year; therefore his age is not so currently believed.

THE short lived dog lives but twenty years, being his utmost age; his ordinary age fourteen years. His disposition is hot and fickle, always violently stirring about, or sleeping. The bitch brings forth many whelps at one litter, and goeth nine weeks.

THE Ox being a slow beast, full of flesh, soon fatted, and fed with grafs, is short-lived in respect of his size and strength, sixteen years being his age; which is longer than the cow lives, bringing forth but one calf, and going with her burthen six months.

THE Sheep, a beast of a midling size, having little gall, and well cloathed with a warm fleece, more curled than other beasts hair, seldom comes to the age of ten years.

RAMS at three years old begin to engender, and untill eighteen years of age do beget lambs. A sheep being subject to many diseases seldom lives out his utmost age.

THE Goat, somewhat resembling the sheep, lives no longer, but is nimbler, and firmer

fleshed, and should be therefore longer lived, but lasciviousness shortens his life.

THE sow lives fifteen years, sometimes twenty, being moister fleshed than other beasts, but not long-lived. The age of the wild boar and sow, is not certainly known.

THE cats age is six or ten years, being a nimble, fierce, ravenous beast, not chewing his food, but devouring and swallowing it whole, and his feed (as *Ælianus* saith) burns the female, conceiving with much pain, but kitting easily.

HARES and conies hardly live seven years, being breeding creatures, knitting and conceiving again immediately after their bringing forth young. The coney lives under ground, the hare sitteth in open air, and has darker flesh.

BIRDS are lesser bodied than beasts, an ox or horse being far bigger than an eagle or swan, and an elephant than an ostridge.

BIRDS are well cloathed with feathers, lying close down to their bodies, and being warmer than beasts wool or hair.

BIRDS though great breeders, carry not their young in their belly, but lay their
eggs,

eggs severally, producing young birds by hatching.

BIRDS chew not their food, being often found whole in their crop; but they will pick out nut-kernels, and the seeds of herbs and flowers, and they are of a strong hot digestion.

BIRDS fly with a mixed motion, being born up by the air, and their wings, whose motion exercises their bodies.

ARISTOTLE observes, that when birds engender by treading, the cock begets not the eggs substance, but makes it fit to hatch; so that fruitful eggs are hardly known from unhatchable eggs.

BIRDS bodies are in one year's growth at their full bigness; but their feathers and bills grow seven years afterward.

THE eagle casting her bill, and so becoming young, is the emblem of long life, her age being a proverb: *Aquilæ senectus*: "The age of an eagle:" yet the eagles growing young changes not her beak, but her beak changing makes the eagle young; for the eagle feeds very painfully and with difficulty when her bill is grown extremely crooked.

THE vulture lives an hundred years. Crows also, and all ravenous birds feeding on

flesh, are long lived; but the hawk living not according to his own kind, but being kept in bondage for private delight and recreation, his term of life is therefore not certainly known; though some say hawks have lived thirty years.

THE long-lived raven lives an hundred years: he feeds on carrion, and flies not often, but sits much, and has very black flesh. The crow resembling the raven, though not so big, nor like in voice, lives almost as long, being accounted a long lived bird.

THE fair feathered swan feeds on fish, swims continually on running streams and rivers, and an hundred years is his age.

THE goose, though his food is grass, is long-lived, especially the wild-goose; so that in *Germany* this proverb is common: *Magis senex quam anser nivalis*: "Older than a white goose."

STORKS are long-lived; because they never came to *Thebes*, a city often sacked, it was therefore observed, that they did either circumspectly instruct their young ones in the *Theban* history, or remembered the passages

sages of former ages wherein they lived; and so this fable pointed at their long life.

Concerning the phoenix, truth is lost in fables. It is chiefly observable, that other birds, when this bird flew abroad, wondered not at her, as they do by instinct of nature at an owl flying by day-light, or a parrot escaping out of a cage.

THE parrot brought into *England* has lived threescore years, being a bird that eats any kind of meat, chews his food, changes his bill, is of a churlish angry disposition, and has black flesh.

THE peacock has a slow pace, and white flesh, living twenty years; and when three years old his tail, like *Argus's* eyes, is speckled and adorned.

THE cock is lecherous, a courageous fighter, and short-lived, having white flesh.

THE turkey, or Indian cock, somewhat longer lived than the cock, is a testy, angry bird, and has very white flesh.

THE ring-dove being an airy bird, loving to build and sit high, is long-lived, fifty years being her age. But pigeons and turtles are short-lived, their age being eight years.

PHEA-

PHEASANTS and partridges live sixteen years, being great breeders, but blacker fleshed than chickens or pullets.

THE lascivious loud-whistling black-bird is, of all small birds, longest lived.

THE sparrow is short-lived, the cock-sparrow shortening his life by wanton lasciviousness. The linnet and finch, though no bigger than the sparrow, live twenty years.

THE ostrich's age is uncertain, and life not long, as by tame ostriches it is observed.

THE age of fishes less observed, because living under water is more uncertain than the age of beasts. Some of them breathe not, their vital spirits being kept close, and cooled by their gills, but not so constantly as by breathing.

THE air dries not, nor decays their bodies, because the water wherein they live, encompassing them, pierces into their pores; having greater power than encompassing air to shorten their lives.

THEY are ravenous devourers of their own kind, having cold blood, and soft flesh, not so firm as beasts flesh, but fatter, an infinite quantity of oil being made of the fat of whales.

DOL.

DOLPHINS live thirty years; for some whose tails were cut off, thirty years afterwards being taken, were known: they grow ten years.

It is observable, and very strange, that fishes bodies grow slender with age, their tail and head retaining their former bigness.

IN fish-ponds belonging to the Roman emperor, lampreys living threescore years, by long keeping were made tame; one of their deaths being therefore lamented by *Craſſus* the Orator.

THE pike, of all fresh-water fish, is longest lived, forty years being his age: he is a ravenous devourer, and his flesh in eating is dry and firm.

THE carp, bream, tench, and eel, live not above ten years.

SALMON are of a sudden growth, but short-lived, and also trout: but the perch grows slowly, and lives longer.

THE age of the whale, sea-calf, sea-hog, and other fishes is unknown.

THE long-lived crocodile always growing, is a devouring, cruel creature, that lays eggs; and the water pierces not his skin,
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being

being scaly and hard. The age of other shell-fish is unknown.

OBSERVATIONS.

CONCERNING the length and shortness of the life of living creatures, hitherto negligently observed, and proceeding from divers causes, instead of certain rules hard to find, these notes following may be added.

BIRDS are longer-lived than beasts, as the eagle vulture, pelican, kite, raven,³ crow, swan, goose, stork, crane, parrot, ring-dove, &c. though they are lesser, and in one year at their full growth. For birds are long-lived, because they are well clothed with warm feathers to keep out cold, and live in the free open air, as mountaineers do; or because when they fly they are carried by the air and their wings, this mixed motion makes them healthy; or because birds are not pined for want of nourishment, or compressed in the egg, the old bird laying them by turns; but especially because birds partaking more of the hen's substance than
of

of the cock's, have not such sharp and hot spirits.

It is a position, that living creatures begotten by a greater quantity of the dam's seed, as birds are, than of the fire's, and lying longer in their dam's belly, partaking more of the dam's seed than the fire's, are therefore longer lived: and it is observable, that men being in visage and countenance more like their mother than their father, live longest; as those children do which sound and healthful men beget on young wives.

LIVING creatures may receive much hurt or good in their first breeding; for such as lie not too close together in the belly of the dam, but have sufficient nourishment, are long-lived; as the eggs of birds laid by turns, and the young of beasts, bringing but one at a yeanning, have room enough and nourishment.

LONG bearing in the mother's womb, and the dam's belly, is for three respects a cause of long life. First, the offspring has more of the mother's, or dam's substance: secondly, it becomes a stronger birth: thirdly, it better endures the power of the air: lastly, it denotes, that nature intended such a birth for
the

the center of a large circumference of many years. The short life of oxen and sheep, calves and lambs, lying six months in their dam's belly, before they are calved and yeaned, proceeds from other causes.

GRAZING cattle are short-lived, but beasts feeding on their flesh live longer, and birds which eat feeds and fruits. For half the long-lived hart's food grows, as they say, above his head; and the goose feeding not only on grass finds some food in the water.

ANOTHER cause of long life is warm clothing, and keeping out immoderate heat and cold, whereby the body is much weakened and decayed, as birds clothed with warm feathers are therefore longer lived; but sheep having thick fleeces are not long-lived, being subject to many diseases, and feeding only on grass.

THE head is the principal seat of all the spirits, being great wasters and consumers of the body, from their great abundance, or sharp inflammation.

THEREFORE birds having little heads in respect of their bodies live longer, and men having very great heads to a shorter period.

THE

THE best kind of motion for prolonging of life, is to be born and carried, as the swan and other swimming water-fowl are, and all birds flying more painfully with their wings, and fish whose age and long life is unknown.

SLOW coming to perfection, both for growth and ripeness, signifies long life in all creatures; for teeth, private hairs, and a beard, are degrees of maturity or ripeness preceding manhood.

MILD meek creatures, as sheep and doves, are not long-lived; the gall being like a whet-stone whereon nature's faculties are sharpened, and fitted to perform their offices.

CREATURES having white flesh live not so long as those whose blacker flesh shews that their body's moisture is firmer and more compact.

As a great fire is lasting, and not soon extinguished, and little water soon evaporates; so quantity and bigness preserve corruptible bodies; a twig withering sooner than the body of a tree, and all great beasts living longer than the lesser.

OF

OF N O U R I S H M E N T.

NOURISHMENT should be of an inferior nature, and more simple in substance than the body nourished. Plants are nourished by the earth and water; living creatures by plants, and men by living creatures feeding partly on flesh, as man does on plants; but neither can subsist by plants or fallads only; but fruits and parched corn will sustain life.

NOURISHMENT too, like the nourished substance, is not good. For grazing cattle touch not any flesh, and beasts feeding on flesh prey, not upon their own kind. *Anthropophagi*, or *Cannibals*, feed not on mens flesh ordinarily, but by eating their enemies flesh as a great dainty, do at once satisfy their hunger and revenge. Also seed corn in the same field where it grew should not be sown, nor a graft be set into the stock whence it was taken.

NOURISHMENT well prepared, and somewhat like the nourished substance, makes
plants

plants fruitful, and living creatures fat. For the nourishment of the stock is better and more agreeable to the nature of the graft, than the earth's nourishment to a young tree or plant: and the seed of an onion or plant sown or set in the earth, produces not such a great onion, or fair plant, as when put into an onion, or into a plant's root, and so set in the ground.

THE boughs of elm, oak, ash, and such forest-trees, grafted on stocks, have broader leaves than those that are planted. Also men feed not so well on raw flesh as on roasted.

LIVING creatures receive nourishment at their mouth, plants at the root, young creatures in the womb at the navel. Birds are nourished awhile by the white of the egg, part thereof being found in their throats after hatching.

OBSERVE, that though all nourishment proceeds and rises from the centre to the circumference, yet trees receive not from their inward parts and pith so much nourishment as from their bark, which being stripped off, they presently wither and die. Also of liv-

ing creatures, the flesh beneath and above the veins is nourished by the blood.

By the inward function of extruding, and the outward operation of attracting nourishment, the nourishing faculty works.

VEGETABLES or plants simply digest their nourishment, without voiding superfluous excrements, gums of trees being rather superfluities of nourishment than excrements, and knobs and knots, sores; but living creatures discerning what nourishment is like their substance, digest the best, and reject the rest in excrement.

THE greatest and fairest fruits hanging on the tree, receive all their nourishment through their stalks.

THE seed of animals in the moment of the emission is only productive, but seeds of plants after long keeping will grow; but young grafts and shoots must be planted while they are fresh and green, else they will not grow, and their roots being not covered with earth will die.

LIVING creatures have different kinds of nourishment agreeable to their age, for in their mother's or dam's belly moisture is their food;

food; after birth, milk; then meat and drink; when old, they love solid, savory food.

BUT whether nourishment may not only by the mouth, but also outwardly be received, is chiefly to be considered. For if baths of milk in hot fevers and consumptions were used, and some physicians hold that nutritive glisters might be purposely made, then such nourishment received not by the stomach, but outwardly, may supply digestion in the weakness of age.

OF THE LONGEVITY OF MAN.

BEFORE the flood, as the sacred scriptures declare, men lived an hundred years: yet of all the fathers none attained to a complete thousand years; neither did the generation of the holy line of grace live only thus long; for by the patriarchs eleven generations from *Adam* to the Flood, and *Cain's* eight, his generation seems longer.

lived. But man's life immediately after the flood was reduced to a moiety, though *Noah* born before the flood lived to his ancestors age, and *Shem* attained to six hundred years. But three generations after the flood man's life was contracted and shortened to an hundred years, being the fourth part of their former age.

ABRAHAM lived an hundred and seventy-five years, in great prosperity and happiness. *Isaac* attained to an hundred and eighty years; a chaste and quiet man. *Jacob*, having many troubles, and many children, lived an hundred and forty-seven years: he was a patient, mild, wise man. *Ishmael* was a martialist, and an hundred and thirty-seven years was his age.

But *Sarah* (no other woman's age being recorded in the holy scripture) died an hundred and seventy years old; being a comely courageous woman, an excellent mother and wife, and famous for discreet carriage, and obedience to her husband. Also *Joseph*, a wise and politic man, though in his younger years much afflicted, lived afterwards in great felicity and happiness, and attained to an hundred and ten years of age. But his
elder

elder brother *Levi*, impatient of disgrace, and seeking revenge, lived an hundred and thirty-seven years. The son of *Levi*, and his nephew, the father of *Aaron* and *Moses*, lived as long.

Moses lived an hundred years, being stout-hearted, but of a mild carriage, and slow speech: yet *Moses* said in the psalm, that threescore and ten years was the ordinary age of man, and of the strongest but fourscore years, being still the term of man's life.

But *Aaron*, three years older than *Moses*, died the same year as his brother: a man of ready speech, and gentle carriage, but somewhat inconstant. *Phineas*, *Aaron's* nephew, by divine grace and favour, lived three hundred years: for all the *Israelites* going out to war against the tribe of *Benjamin*; *Phineas*, being a very zealous man, was then, as the history relates, a chief captain and counsellor.

JOSHUA, an excellent and fortunate captain, lived to an hundred and ten years. *Caleb* lived in his time, and to his age: but *Ehud* the Judge lived only an hundred years. The holy land, after his conquest of

the *Moabites*, being eighty years under his government: he was a valiant stout man, and devoted his actions to the good of the common-wealth.

JOB, restored to his former happiness, lived one hundred and forty years, having had, before his troubles, sons that were grown men. He was a politic, eloquent, and good man, and the example of patience.

ELI the priest lived ninety eight years: was a fat man, and of a pleasant, loving disposition. But *Elisba* the prophet, being at the time of the assumption of *Elias*, with regard to his age, mocked by children, and called old bald pate, lived sixty years afterwards, and was above an hundred years old when he died. He was a severe man, living austerely, and contemning riches. *Isaias* the prophet was an hundred years old, and spent seventy of those years in prophesying; but when he began to prophesy, and at what age he died, is unknown. He was a very eloquent and evangelical prophet, inspired with the promises of the coming of Christ, fulfilled in the New Testament.

TOBIAS the elder lived one hundred and fifty-eight years, and the younger *Tobias* an hun-

hundred and twenty-seven years, being merciful and charitable men. Many Jews that returned from the captivity of *Babylon* lived long, and could remember the building of both the temples, the latter being built seventy years after the other. Many ages after, when our Saviour was born, *Simeon* was an old religious, faithful man: and *Anna* the prophetess lived to an hundred years, she having been married seven years, a widow eighty years, and afterwards a prophetess of our Saviour's incarnation: she was a holy woman, that spent her life in prayer and fasting.

THE long lives of men mentioned in heathen authors are fabulous, and deceitful calculations of ages. Those Egyptian kings that reigned longest lived not above fifty, or fifty-five years; a common modern age. But it is fabulously supposed, that the kings of *Arcadia* lived to a great age, because their country was mountainous; and both they and their people being for the most part shepherds, led a temperate life: but as *Pan* was their God, so all these relations are but vain fables.

NUMA, king of the *Romans*, lived to eighty years of age, being a peaceable, studious, and religious man. *Marcus Valerius Corvinus* was consul forty six years after his first consulship, and lived an hundred years, being both in war and private affairs very powerful, of a popular disposition, and always fortunate.

SOLON, the *Athenian* law-maker, and one of the wise sages, lived above fourscore years; a valiant and popular man, a lover of his country, learned, and somewhat voluptuous, *Epimenides* of *Crete* lived one hundred and fifty-seven years, and fifty seven of those years in a cave. Half an age afterwards, *Xenophon Colophonius*, having at twenty years of age left his country; after seventy-seven years travel returned again, and lived in all one hundred and two years, or longer. This man, being a traveller, had also a wandering mind: and for holding many opinions was called *Xenoman*, or the wanderer, instead of *Xenophon*; yet certainly his conceit and fancy was large and infinite.

ANACREON, the wanton, voluptuous poet, reached to fourscore years of age, and upwards; and *Pindar* of *Thebes*, a poet of an
high

high fancy, witty in a new way of writing, and a religious adorer of the Gods, lived four-score years. *Sophocles* the *Athenian* attained to the same age; an eloquent tragical poet, and a great writer, but careless of his family.

ARTAXERXES, king of *Persia*, lived ninety four years, being a man of a dull wit, not laborious or painful, but affecting ease more than glory.

AGESILAUS was a moderate king, and a philosopher; a great soldier, and politician, but ambitious of honour: he lived eighty-four years.

GORGIAS LEONTINUS lived an hundred and eighty years. This man was a rhetorician, a public school-master, and a traveller; and before his death he said, that *Protagoras* the *Abderite*, being a rhetorician, a politician, and as great a traveller as *Gorgias*, lived ninety years. *Socrates* the *Athenian*, multiplying his life, reached to ninety-nine years of age: he was a modest rhetorician, that would never plead in open court, but kept a private school.

DEMOCRITUS of *Abdera* drew out his time of life to an hundred years; was a great natural philosopher, and a learned physician,
and

and practitioner in experiments; so that *Aristotle* objected against him, because his observations were grounded more on comparison than reason, being not proved by logic, but by similitude, the weakest kind of argument. *Diogenes Synopeus*, allowing others liberty, but strict in private government, delighting in poor diet and patience, lived ninety years. *Zeno Citteus*, lacking but two of an hundred years, was high-minded, a contemner of opinions, and had an excellent wit, not offensive, but rather alluring than compelling affection. *Seneca* afterwards had the like wit. *Plato of Athens* lived eighty one years: a man affecting quietness, and high contemplation; of a civil, handsome behaviour, not light, but pleasing and majestic. *Theophrastus Etesius*, using a sweet kind of eloquence, mingled with plentiful variety, gathering only the sweet roses of philosophy, not the bitter worm-wood, attained to fourscore and five years. *Carneades of Cyrene*, many years after, lived until he was fourscore and five years old; a fluent, eloquent man, delighting in variety of knowledge, which made his conversation pleasing and acceptable. But in *Cicero's* time, *Orbilius*,

no philosopher or rhetorician, but a grammarian, lived almost an hundred years; being first a soldier, then a school-master; of a proud disposition, and a whipping, railing writer, even against his own scholars.

Q. FABIVS MAXIMVS, having been sixty three years augur, and more respected for his nobility than age, was above fourscore years old when he died. He was a wise man, that ripened actions by delaying their execution, being all his life-time moderate, courteous, and grave. *Mafniffa*, king of *Numidia*, lived above ninety years, and had a son when he was upwards of eighty-five years old. This man was valiant, and confident in fortune, whose changes his younger years having experienced, he afterwards lived in constant happiness. *Marcus Porcius Cato* lived above ninety years: a man of an iron body and mind, of a sharp speech, and contentious; addicted also to husbandry; and a physician to himself and family.

TERENTIA, *Cicero's* wife, living an hundred and three years, suffered many troubles and afflictions by her husband's banishment, death, and also by the gout. *Lucia*, playing the part of a young maid, afterwards of an
old

old wife upon the stage, lived an hundred years. Also *Galeria Copiola*, being at first an actress, was ninety nine years afterwards, at the dedication of *Pompey's* theatre, brought forth as a miracle of age, and afterwards was a spectacle in plays made in honour of *Augustus Cæsar*.

LIVIA JULIA AUGUSTA, wife to *Augustus Cæsar*, and mother to *Tiberius*, lived but ninety years, but was a more famous actress than the former: for *Livia*, being a courteous, stately, and pragmatical matron, complying with her husband by dissembling obedience, and with her son by majestic courage, was certainly an excellent actress in the comedy of *Augustus's* life; who himself spoke a commanding epilogue, charging his friends to applaud it after his death. *Iunia*, wife to *C. Cassius*, and sister to *M. Brutus*, being ninety years old, and living sixty-four of them before the battle of *Philippi*, was rich; and though unfortunate in her husband and kindred, yet a noble widow.

IN *Vespasian's* reign, anno 76, in the part of *Italy* lying between the *Appenine* and the river *Po*, men of an hundred years old, and upwards, were assessed, and put into the
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subsidy.

subsidy-book: namely, one hundred and twenty-four of 100 years of age; fifty-four, 120; fifty-seven, 125; four, 130; four, 135; and three that were 149 years old. There were also at *Parma*, three men 120, and two 130 years old. At *Bruxelles* there was an old man 125, another at *Placentia* 121, and an old woman aged 132 years was living at *Fluentia*; and in the ancient town *Velleiacium*, seated on the hills near *Placentia*, were six men aged 110, and four 120. Lastly, at *Rimino*, one *M. Aponius* was an hundred and fifty years old.

OF the *Roman*, *Grecian*, and *German* emperors, being almost two hundred, some only attained to fourscore years of age. The emperors *Augustus* and *Tiberius* living seventy-eight, and seventy-six years, might have reached fourscore years, had they not been poisoned by *Livia* and *Caius*.

AUGUSTUS lived seventy-six years; was a moderate prince, somewhat hasty in action, but of a fair and pleasing carriage; temperate in diet, lascivious, and very fortunate; and when about thirty years old, falling into a dangerous sickness, was restored to health by *Antonius Musa*, and cured by cold medicines,

cines, instead of hot applications used by other physicians, as agreeable to his disease. *Tiberius* was, by two years, longer lived than *Augustus*. His words, as *Augustus* said, stuck in his throat: he was a prince of slow speech, but stern and bloody; a drunkard, and luxurious in diet, yet very careful of his health, and used to say, that every one after thirty years of age was a fool or a physician. *Gordian* the elder lived sixty years; then being made emperor, he fell into a violent sickness, and died: he was a brave, famous man, learned, and a poet; constant in the whole course of his life, and a little before his death, fortunate.

THE emperor *Valerian* lived seventy-six years before he was taken prisoner by *Sapor*, king of the *Persians*; seven years afterwards he suddenly fell sick, and died. He was of an ordinary temper, and not very valiant; and though weak in desert, was by general opinion conceived worthy to be made emperor. *Anastasius*, surnamed *Dicorus*, was fourscore years old; of a quiet, mild, superstitious, timorous temper. *Amicius Iustinianus* lived eighty-four years; affecting glory; famous by his captains success, not his own valour:

valour; uxorious, and governed by others. *Helena of Britain*, the mother of *Constantine* the Great, lived fourscore years; was no stateswoman, but wholly devoted to religion, yet of an high spirit, and always happy. *Theodora* the empress, sister to *Zoes*, the wife of *Monomachus*, who reigned after her decease, lived above fourscore years; a busy, stately, fortunate, and credulous woman.

AFTER these examples of long-lived heathen men, the ages of principal ecclesiastics shall be related. *St. John*, our Saviour's beloved apostle and disciple, lived ninety-three years, whose divine inspirations and burning charity were shadowed forth by the emblem of an eagle drawn near his picture.

LUKE the Evangelist was eighty-four years of age; an eloquent man, and a traveller; *St. Paul's* constant companion, and a physician. *Simeon Cleophas*, called Christ's brother, was bishop of *Jerusalem*, and lived an hundred and twenty years before he was martyr'd: a courageous, constant, charitable man. *Polycarp*, the apostle's disciple, and bishop of *Smyrna*, attained to an hundred years, and was then martyr'd: a high-minded man, of heroic patience, and laborious. *Dionysius*

Onysius Areopagita, in the apostle *Paul*'s time, living ninety years, was called, "the bird of heaven:" an excellent divine, and famous for life and doctrine. *Aquilla* and *Priscilla*, the apostle *Paul*'s hosts, and afterwards fellow-helpers, lived to an hundred years; being in pope *Xistus*'s time an ancient married couple, wholly given to good works: the churches first founders were fortunate in marriage. *St. Paul* the Hermit lived in a cave an hundred and thirty years, with intolerable poor, hard diet: he was a learned man, and spent his life in meditation. *St. Anthony*, the first founder or restorer of the order of monks, attained to an hundred and five years; a devout, contemplative man, of an austere and severe life, governed his monks in such a glorious solitude, that he was visited by christians and philosophers, and adored as a living image of sanctity and holiness. *Athanasius*, a man of invincible constancy, commanding fame, and yielding not to fortune, bold with great personages, popular, and a stout champion in controversies, died above eighty years old. *St. Jerome* lived above ninety years: he was an eloquent writer, learned in languages and sciences; a

tra-

traveller; and towards his old age of austere life, his high mind shone in a private life like a star in obscurity.

BUT of two hundred and forty-one popes, five only attained to fourscore years. The age of many of the first popes being shortened by martyrdom. Pope *John* the 23d. lived ninety years: a man of an unquiet disposition, and an innovator; bringing in many alterations and changes, some for the better, but a great hoarder of wealth and treasure. *Gregory* the twelfth, by a factious election created pope, died at ninety years; his short papacy afforded nothing worthy of observation. *Paul* the third lived eighty one years; of a quiet disposition, and profound judgment; a learned astrologer, careful of his health, and, like the old priest *Ely*, a father of his family.

PAUL the fourth, who lived eighty three years, was of a severe disposition, high-minded, and imperious; of a working fancy, and an eloquent ready speech. *Gregory* the thirteenth lived also fourscore and three years; was a good man, politic, temperate, and charitable.

THE following examples are promiscuously set down together—*Arganthonius*, king of *Cadiz* in *Spain*, lived one hundred and thirty or forty years, reigning eighty: his manners, kind of life, and the time wherein he lived, are unknown. *Cyniras*, king of *Cyprus*, accounted then a happy, pleasant island, lived one hundred and fifty or sixty years. Two kings of the *Latins* eight hundred and six hundred years. Some kings of *Arcadia* three hundred; but the inhabitants long life in this healthful country is but an invented fable. It is reported, that in *Illyricum* one *Dardanus* lived five hundred years without any infirmity of age. The *Epians*, a people of *Ætolia*, were generally all long-lived; two hundred years being a common age: and among the rest the giant *Litorius* was three hundred years old. On the top of the mountain *Imolus*, anciently called *Tempsus*, many men attained to an hundred and fifty years. The sect of the *Esseans*, in *Judea*, lived above an hundred years, on a very poor *Pythagorean* diet. *Apollonius Tyaneus*, when above an hundred years old, had a fresh, fair complexion, and was accounted by the heathens a very divine man, but by the

the christians esteemed a magician; a *Pythagorean* in diet, a great traveller, famous, and renowned; but in his age he was disgraced, and suffered many contumelies and reproaches which redounded afterwards to his honour. *Appius Cæcus*, when very old, governed a great family, and the common-wealth; and in his extreme old age, being brought on a bed into the Senate-house, dissuaded them from making peace with *Pyrrhus*: in the beginning of his oration shewing a memorable and invincible courage and strength of mind, saying, “ My blindness, reverend fathers, “ I have very patiently endured; but now “ hearing your dishonourable counsels and “ purpose to conclude a peace with *Pyrrhus*, “ I could wish myself deaf.” *M. Perpenna* lived ninety eight years, surviving all the senators of his consulship, and all elected in his censorship, except seven. *Hiero*, king of *Sicily*, who reigned at the time of the second *Punic* war, lived almost an hundred years; was a moderate prince, both in government and manners; religious, faithful in friendship, bountiful, and continually fortunate. *Statilia*, of a noble family, lived ninety-nine years, in the reign of *Claudius*. *Claudia*, the

D d 2 daughter

daughter of *Otilius*, one hundred and fifteen years. *Xenophilus*, an ancient philosopher of the *Pythagorean* sect, one hundred and six years; was healthful and lusty in his old age, and very popular for his learning.

ISLANDERS were formerly accounted very long-lived, now equal to others in age. *Hippocrates* of *Cous*, a famous physician, who lived one hundred and four years, approving his art by lengthening his life, was a wise and learned man, of great experience and observation, and without affecting method, found out the nerves and sinews of science.

DEMONAX, a philosopher by profession and manners, who lived an hundred years in *Adrian's* reign, was distinguished for an exalted mind, and an absolute command of himself; and without affectation a contemner of the world, yet civil and courteous: when he died, being asked touching his burial, he answered, "Take no care for my burial, " for my offensive smell will bury me." He that asked him, said again, "Would you " have your body left for dogs and ravens to " feed upon?" *Demonax* answered, "What " great hurt is it, if having sought while I " lived

“lived to do good to men, my body do some
 “good to beasts when I am dead?”

THE Indians called *Pandoræ*, are very long lived, reaching two hundred years. The *Seres*, another sort of Indians, with plantain drink, live to an hundred years. *Euphranor* the Grammarian, when above an hundred years old, kept a school. *Ovid*, the poet's father, lived ninety years; who differing from his son in disposition, and averse to the Muses, dissuaded him from studying poetry. *Asinius Pollio*, favourite to *Augustus*, and favoured also by the Gods, with a life of an hundred years, was luxurious, eloquent, learned, hasty, proud, cruel, and made private benefits the only centre of his actions. *Seneca*, managing state matters, banished for adultery in *Claudius's* reign, was near an hundred years old when he was *Nero's* school-master. *John of Times*, a Frenchman, and a foldier of *Charles* the Great, was accounted in those latter times the longest liver, being three hundred years old.

GARTIUS ARETINE, grandfather to *Aretine*, was healthy to the last, feeling no sickness; but when strength of nature decayed, died with age. Many Venetians lived ex-

ceeding long, as Captain *Francis Donatus*, *Thomas Contaremus*, Proctor of *St. Mark's*, *Francis Molin*, Proctor also of *St. Mark's*, and others. But *Cornarus Venetus*, having a sickly, crazy body, for the recovery of health, took all his meat and drink, by weight, keeping afterwards according to that proportion a constant diet, and thereby lived about an hundred years in perfect health. *William Postell*, a Frenchman, at the age of an hundred and twenty, had on his upper lip black hair; was a man of an active brain and light fancy, a great traveller, and an experienced mathematician, rather inclining unto heresy.

IN *England* there is in every populous village a man or woman of threescore years: and at a wake in *Herefordshire*, a dance was performed by eight men, whose ages added together amounted to eight hundred years; some being as much above an hundred years, as others were under that age.

MANY mad folks in *Bethlem Hospital*, in the suburbs of *London*, live very long.

THE ages of nymphs, fawns, and satyrs, formerly superstitiously adored, are but dreams and fables, contrary to philosophy and religion. So much for the history of the long
life

life of particular persons, now follow general observations.

IN succeeding ages and generations, length of life is not shortened, fourscore years having been, from the time of *Moses*, the constant age of man. But in particular countries mens lives were longer, when plain homely diet, and bodily labour were much used, and shorter, when more civilized times delighted in idleness and wanton luxury: but as succession of ages shorten not the length of life, they must be distinguished from the corruptions thereof. The age also of beasts, as oxen, horses, sheep, goats, and and such like creatures, not being shortened in this age; therefore the deluge, or general flood, and perhaps particular accidental floods, long droughts, earthquakes, and the like, shorten life, and not the succession of ages and generations. Neither do the bigness and stature of bodies now decrease and grow less, though *Virgil*, following common opinion, prophesied of a lesser stature of men in succeeding ages, of the ploughing the *Emathian* and *Emonensian* fields.

THOUGH in *Sicily* and other places, three thousand years since, Giants lived in caves,

yet the general stature of men since that time is not decreased, which confutes the common opinion that men are not so long lived, big, nor strong, as formerly.

IN cold Northern countries, men commonly live longer than in hotter, their skin being more compact and close, whereby their moisture is not so easily diffused, scattered abroad, and consumed by the sharpness of their reparable spirits, nor exhausted and devoured by the intemperate heat of their air. But under the Equinoctial line, the sun passing twice over it, makes two winters and summers, and equal days and nights, the inhabitants live very long, as in *Peru* and *Taprobana*.

THE *Mediterranean Islanders* are commonly long-lived; for the *Russians* live not so long as the *Orcades*, nor the *Africans*, as the inhabitants of the *Canaries* and *Terceras*, though under the same parallel; and the *Japonians*, though earnestly desiring and affecting long life, are not so long lived as the *Chinese*, the sea air yielding a cherishing warmth in cold countries, and a refreshing, cooling breeze in hot countries.

HIGH

HIGH grounds, except the tops of mountains, produce people of a greater age than low, flat levels, and in high countries, as in *Arcadia* and *Greece*, and part of *Ætolia*, the inhabitants live to a great age, as the inhabitants of mountains would do, if their pure clear air were not accidentally corrupted with vapours, which rising from the vallies, settle and rest on the hills: therefore on snowy mountains, on the *Alps*, the *Pyrennean*, and the *Appenine* mountains, the inhabitants live not so long, as those dwelling on middling hills or vallies: but on the ridges of mountains towards *Ethiop*, and the *Abyssynes*, covered with snow, with no hovering vapours, the people live to an hundred and fifty years of age.

THE air of marshes and fens, lying flat and low, agrees with the natives, but to strangers is unhealthy, and shortens their lives: and marshes, or other fenny places, that are overflowed with salt tides, are more unwholesome than those overflowed with fresh land-water,

THE particular countries wherein the people live to a great age, are these: *Arcadia*, *Atolia*, *India* on this side the *Ganges*, *Brasil*,
Tapra-

Taprobana, Britain, Ireland, and the islands of Orcades and Hebrides, but not Ethiopia, as some of the ancients supposed.

THE air being perfectly wholesome is a secret quality, rather found out by experience, than reason: for if a piece of wood laid some certain days in the open air, grows not heavier in weight, it proves that the air is good; also, if a piece of flesh laid in the same manner remain unputrified, or if a perspective glass presents the object in near distance, the air is thereby proved wholesome.

A wholesome air must be good, pure, and equal. Hills and vallies, with a kind of changeable variety, make a pleasant prospect, but are not so healthy as the moderately dry plain, not barren or sandy, but planted with shady trees.

It is bad dwelling in a changeable air, though change of air in travels, by use and custom, becomes healthy, making travellers long-lived. Cottagers dwelling continually in one place live to a great age, the spirits being consumed less by an accustomed air, but nourished and repaired more by change of air.

THE

THE life of man is not lengthened or shortened by succession of ages, but the immediate condition of the parents, both the father and mother, is to be regarded. As whether the father was an old, young, or middle-aged; healthy and sound, or sickly and diseased; a glutton, or a drunkard; or whether children were begotten after sleep in the morning, after long forbearance of venery, in the heat of love, as bastards, or in cold blood, as in continuance of marriage. The same circumstances are also on the mother's side to be considered, and also the conditions of the mother during pregnancy: as whether she were healthy, and what diet she kept. Certain rules for judging of childrens life by the manner of their generation and birth are hard to be given, matters falling out contrary to expectation; for children begotten with a lively courage prove strong, but, through the sharp inflammation of the spirits, are not long-lived: also children receiving a greater or equal quantity of the mother's fluid, and begotten in lawful wedlock, not in fornication, and in the morning, without excessive lewdness in the parents, live long: for it is observable, that stout, strong

strong parents, especially mothers, have not strong children. *Plato* ignorantly imagined, that because women used not exercise as men did, therefore children were not strong; whereas unequal strength is most powerful in the act of generation; a strong man and a weak woman having strongest children: so young women are the most prolific, and young nurses are the best. For the *Spartan* women, not marrying until two or five and twenty years old, called therefore masculine women, had no lustier, longer-lived children, than the *Roman*, *Athenian*, or *Theban* women, who accounted themselves marriageable at twelve or fourteen years old: therefore spare diet made the *Spartan* women excellent breeders, not late marriage. But experience shews, that some families are long-lived; long life and diseases being hereditary to all of the same stock and parentage.

BLACK or red hair, and a complexion with freckles, are signs of longer life, than white hair and complexion: and a fresh red colour in young folks is better than a pale; a hard, not a spongy skin, but close grained, is a better sign of long life than a smooth skin;

skin: and great wrinkles in the forehead are better signs than a smooth forehead.

HAIR hard like bristles is a better sign of long life than dainty soft locks; and hard, thick, curled hair, is better than soft and shining.

BALDNESS coming sooner or later is an indifferent sign, many being soon bald, yet long-lived; and grey hairs, accounted signs of old age, coming betimes without baldness, are signs of long life; with baldness, a token of the contrary.

THE hairyness of the lower parts, as the thighs and legs, is a sign of long life, but not of the breast, or upper parts.

MEN of a tall stature, strong, and active, are long-lived; but a low stature, and slow disposition, are contrary signs.

IN regard of proportion, short waists and long legs betoken longer life than long waists and short legs: and a big proportion downwards, and slender upwards, is a sign of longer life, than broad shoulders, and a slender make downwards.

LEAN folks, of a quiet, peaceable disposition; and fat folks, of a choleric nature,

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are commonly long-lived. Fatness in youth is a sign of short life, but not in age.

LONG growth, either to a great or lesser stature, is a sign of long life; but sudden growth, either to a low or high stature, is a bad sign.

FIRM flesh, full of muscles and sinews, and high swelling veins, signify long life; the contrary are signs of short life.

A SMALL head in proportion to the body; a middle-sized neck, not long, slender, thick, or short, shrinking within the shoulders; large nostrils; a wide mouth; gristly ears, not fleshy; and strong, close, even teeth, signify long life, and especially breeding of new teeth.

A BROAD breast bending inwards, crooked shoulders, a flat belly, a broad hand with few lines in the palm, a short round foot, thighs not very fleshy, and high calves of the legs, are signs of long life.

GREAT eyes with a green circle bordering on the white of the eye; senses not too sharp; slow pulses in youth, in age quicker, holding the breath easily; costiveness in youth, looseness in age, signify long life.

ASTRO-

ASTROLOGICAL observations, drawn from nativity, are not allowable. Children coming at eight months are commonly still-born; but children born in winter are long-lived.

A STRICT *Pythagorical* or *Cornarus's* diet, of equal proportion, is good to make studious men live long. But by free eating and drinking, and a plentiful diet, common people live longest. A temperate diet, though healthy, is no cause of long life: for the strict diet breeds few spirits, consuming less moisture, and the full diet yields more repairing nourishment; but the moderate diet affords neither fewer spirits, nor more nourishment. With a strict diet, watching must be used to keep sleep from oppressing the spirits, being few; and also moderate exercise, and abstinence from venery: but a plentiful diet requires much sleep, frequent exercise, and seasonable venery. The learned and wise physician *Celsus* held, that variety and change of good plentiful diet was best; also watching, but oftener long sleep; fasting, but more frequently feasting; and business sometimes, but oftener pleasure and recreation, were good and healthy. In keeping a good diet, which is the greatest lengthener

thener of life, there are different observations. I remember that an old man above an hundred years of age, produced for a witness in a plea of prescription, having given in evidence, and being asked by the Judges by what means he had lived so long, answered, " By eating before I was hungry, and drinking before I was thirsty."

A RELIGIOUS holy life may cause a long life; for retirement, rest, divine contemplation, spiritual joy, noble hope, wholesome fear, a pleasing melancholy, newness of life, strict observations, repentance, and satisfaction, lengthen the natural life of a mortified christian; and their austere diet hardens the body, and humbles the spirit: so that *Paul* the Hermit, and *Simeon* the Anchorite, and many other monks, lived thus in the wilderness until they were old.

NEXT to this is the learned life of philosophers, rhetoricians, and grammarians, living in ease, and thoughts not relating to business, without grief, delighting in variety, and in the pleasant conversation of young men. But philosophy had various effects on long life, according to its subject; for superstitious, high, contemplative philosophy,

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as the Pythagorical, Platonic, and natural philosophy, metaphysics and moral philosophy of heroic virtues, were good studies to prolong life: such was the philosophy of *Democritus*, *Philolaus*, *Xenophon*, astrologers, and stoics; also philosophy, not profound and speculative, but agreeable to common opinion, as professed by *Carneades* and the Academics, Rhetoricians, and Grammarians, was conducive to life: but difficult, subtle philosophy, weighing matters in the scale of principles, and full of thorny questions, was a bad study, to which the peripatetics and scholastics were devoted.

THE country life, busied in employments abroad, active, and keeping a fresh homely diet, without care and envy, prolong life.

THE military life is good in youth, many excellent warriors having lived to a great age, as *Corvinus*, *Camillus*, *Xenophon*, *Agefilaus*, and others both ancient and modern. Also the improvement of virtue, by increasing daily in goodness, and labouring in youth, prolong life, the remembrance thereof being sweet in age. Besides, military affections, raised with the desire and hope of victory, infuse into the spirits heat agreeable to long life.

MEDICINES FOR LONG LIFE.

THERE are many medicines for preserving health, and curing diseases, but few to prolong life: therefore the most notable ones, called Cordials, shall be here proposed; for cordials taken to fortify and strengthen the heart and spirits against poison and diseases, used with judgment, may be powerful to prolong life. These which are selected, and set down, are best.

GOLD is exhibited and used three ways; as potable, quenched in wine, or substantial, as leaf and powder gold. Potable gold was given first in dangerous, desperate diseases; as an excellent powerful cordial, receiving the virtual effect from the spirit of salt wherein it is dissolved; for gold would be more sovereign could it be dissolved without corrosive waters, or by them when cleared of their venomous quality.

PEARLS are taken in powder, or dissolved in the juice of green lemons, or in spiced comfits and liquors. The pearl and the shell

shell whereunto it cleaves are of one nature, and in quality like the shells of river-crabs.

Two cristalline precious stones are chief cordials, the emerald and jacinth, given in the same manner as pearls, but not usually dissolved; yet these green stones are of a sharp operation.

THE benefit and help received from these medicinal species, shall be hereafter declared.

BEZOAR stone is of approved virtue, recreating the spirits, and provoking gentle sweat. Unicorn's-horn is of like esteem with the hart's-horn, and the bone of its heart, ivory, and the like.

AMBERGRIS is very good to comfort and refresh the spirits.

PRESCRIPTIONS for diet being here only delivered, hot waters and chymical oils, having a destructive, violent operation, and also hot spices are to be rejected; and waters must be made more temperate, lively, and fragrant than phlegmatic distillations, or hot extracts of the spirit of wine.

OFTEN letting blood, proved good by experience, is good to prolong life; the old moisture of the body being thereby evacuated, and new supplied.

CONSUMPTIONS also and sickneſſes procuring leanneſſes, being well cured, lengthen life, the body being thereby ſupplied with new moiſture after the conſumption of the old; therefore it is ſaid, that to grow healthy after ſuch a ſickneſs is to grow youthful. The procuring of ſickneſs by artificial diets ſhall be hereafter declared.

I N T E N T I O N S.

ENQUIRY having been made concerning inanimate bodies, vegetables, living creatures, and man, a new ſearch by true and proper intentions, reſembling the paths of mortal life ſhall be made, and more effectual than all former contemplations of comforting natural heat, and radical moiſture, or of meats breeding good blood, neither hot nor phlegmatic, and of reſreſhing and recreating the ſpirits; or of medicines abſurdly imagined to produce the ſame properties as the ſubſtances from which they are taken; ſuch as gold to operate incorruption; gems and pearls, vivacity of ſpirit; deer, ſerpents,
and

and eagles, from renovating some of their parts to renew age: the influence of planets, and other such absurdities, by which reason being besieged, has miserably yielded up the fort of belief. But to these material intentions, though not largely handled, much cannot be added; some few admonitions only concerning them are to be delivered.

FIRST, the offices and duties of life being better than life, are not hindered by our prescriptions; such being rejected, or lightly mentioned, and not insisted on: for no serious discourse of living in a den or hole of a rock, like *Epimenides's* cave never befriended with any cheerful sun-beam, or day-light; or of continual baths of prepared liquors; nor of enclosing the body in fear-clothes, nor plaistering it with paint, as used by Savages; or of accurate diets to prolong life, formerly kept by *Herodicus*, and in our age more moderately by *Cornarus Venetus*, nor the like unprofitable, idle projects, are here mentioned. But our remedies and precepts may be used without interrupting and hindering common duties and business.

SECONDLY, It is a vain conceit to imagine that any potion or medicine can stay or re-

new the course of nature; which great works must be brought about and effected by application of divers remedies; and, being a new project, must be wrought by unusual means. Thirdly, some following propositions are not grounded on approved experiments, but on reason; and our former principles and suppositions are all cut and digged out of the rock and mine of nature. And because man's body is in scripture said to be the soul's upper garment; therefore no dangerous, but wholesome and profitable remedies are here propounded. Besides, it is observable, that the same drugs are not good to preserve health, and lengthen life; for some being good to cheer the spirits, and make them vigorously and strongly perform their duties, do shorten life; others being powerful to prolong life, unless prevention be used, endanger health, therefore some cautions and advertisements shall be inserted, leaving the choice of several remedies belonging to the several intentions to the reader's discretion. For their agreeableness to different constitutions of bodies, to divers kinds of life, and several ages, and the order observable in their application,

cation, would be too tedious to declare, and unfit to be published.

THE third intention proposed in the topics, of staying consumption, perfecting reparation and renewing age, are enlarged into these ten operations.

THE first of which is of reviving and renewing the spirits.

THE second operation is of excluding or keeping out the air.

THE third, of blood, and heat breeding blood.

THE fourth, of the juice and moisture of the body.

THE fifth, of the bowels, and digestion of nourishment.

THE sixth is of the outward parts attracting nourishment.

THE seventh is of making diet more nourishing.

THE eighth is the last act of assimilation, or converting into the substance of the body.

THE ninth is of making the parts of the body tender, after they begin to wither and wax dry.

THE tenth is of purging out old moisture, and filling the body with new moisture.

OF these operations, the first four belong to the first intention; the second four to the second intention; and the two last to the third intention.

AND because these intentions may be daily practised, therefore under the name of an history; experiments, observations, counsels, remedies, explications of causes and reasons, are blended and mingled together,

T O C O N T I N U E A N D R E N E W
T H E
V I G O U R O F T H E S P I R I T S.

THAT the spirits work all effects in the Body, is most clear and evident by divers experiments.

YOUTHFUL spirits conveyed into an old body, would, like a great wheel turning about the lesser, make nature move backward, and old folks become young.

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IN all consumptions by fire or age, the more moisture that the spirit or heat devours, the less durable is the substance.

THE spirits working temperately, should not drink or devour, but sip the moisture of the body.

FLAMES are of two kinds, sudden and weak, consuming thin substances, as the blazing flame of straw, and shavings of wood: the other strong and constant, invading hard stubborn substances, as the flame of great wood.

FLAMES suddenly blazing and weak, dry, consume, and parch the body; but strong flames dissolve and melt the body, making it moist and soft.

SOME purgatives carry off watery thin humours, others watery, stubborn, slimy matter.

SUCH spirits as are more powerful to abate and subdue hard stubborn humours, than to evacuate thin and prepared humours, will keep the body lusty and strong.

THE spirits should be thick in substance, hot, and lively, not sharp and burning; of sufficient quantity, not abounding; and quiet
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in motion, not bounding in an unruly manner.

VAPOUR work powerfully on the spirits, as those do arising from sleep, drunkenness, melancholy, and merry passions, and from odours and sweet smell recreating the fainting spirits.

THE spirits are thickened by four sorts of means; by flight, cooling, delight, and restraint: and first of their thickening by flight.

BODIES, from their being put to flight, are forced into their centre, and so thickened.

THE juice of black poppy, and all medicines procuring sleep, thicken the spirits by flight.

THREE grains of poppy-juice will make the spirits curdle together, and quite extinguish their working.

THE spirits are not put to flight by the coldness of poppy-juice, and the like drugs being hot; but the flight of the spirits makes them hot by condensing.

THE flight of the spirits from poppy-juice is best discerned by the outward application, making them withdraw and retire, and keep within, until the mortified part turns to a gangrene.

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IN painful incisions, cutting for the stone, or cutting off limbs, juice of hemlock is used to mitigate the pain, by putting the spirits to flight, and casting the patient into a swoon.

THE thickening of the spirits by flight, and driving inwards, is a good effect of poppy-juice, proceeding from a bad cause; that is, the flight of the spirits.

POPPY was esteemed by the *Grecians* to be a great preserver of health, and prolonger of life: the principal ingredient used by the *Arabians*, called God's hands, was poppy-juice, the bad qualities thereof being allayed with other mixtures, as treacle, mithridate, and the like.

ALL medicines thickening the spirits, as poppy especially, and staying and-restraining their unruly working and raging in pestilential diseases, are good to prolong life.

A GOOD quantity of poppy-juice, being found by experience to be comfortable, is taken by the *Turks* to make them valiant; but to us, unless taken in a small quantity, and well allayed, it is deadly poison.

POPPY-JUICE also strengthens the spirits, and excites to venery.

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THE distilled water of wild poppy is good for surfeits, fevers. and divers diseases; the spirits being thereby thickened and strengthened to resist any diseases.

THE *Turks* drink the powder of an herb in warm water, to increase their valour, and sharpness of wit; but a greater quantity thereof is of a stupifying power like poppy.

THE *East-Indians* refresh themselves before and after labour, by chewing a famous root called betel; which enables also their acts of generation, and is of a stupifying power, because it blacks the teeth.

TOBACCO, in this age grown so common, and yielding such a secret delight and content, that being once taken, it can hardly be forsaken, it lightens the body, and takes off weariness; opening the pores, and voiding humours, but thickening the spirits; being a kind of henbane, and like poppy, troubles the brain.

SOME humours of the body, as those proceeding from melancholy, are like poppy-juice, and cause long life.

OPIUM, or poppy-juice, the leaves and seeds of both kinds of poppy; also henbane, mandrake, hemlock, tobacco, night-shade,

or banewort, have all a drowsy, stupifying power.

TREACLE, mithridate, trifer, Paracelsus's gum, syrurp of poppy, pills of hound's tongue, are compound drugs of the same nature.

THESE prescriptions prolong life, in thickening the spirits by cooling.

IN youth, keep every year a cool diet about May, the spirits in summer being loose and thin: and take a julip of poppy, and other hot ingredients, but not too strong, every morning between sleep; then keep a spare diet for fourteen days afterwards, forbearing wine, and hot spices.

SMOKES and steams being not too purgative to draw forth humours, but having a light operation on the spirits of the brain, cool the spirits as well as coolers; therefore a suffumigation made of tobacco, wood of aloes, dry rosemary-leaves, and a little myrrh, being in the morning received into the nostrils, is very wholesome.

BUT the water of compound opiate drugs, the vapour rising in distilling, and the heat settling downwards, is better to be taken in youth, than the drugs; for the virtue of
dis-

distilled waters is in their vapour, being in other respects weak.

SOME drugs being like poppy, but not so strong, yield a drowsy, cooling vapour, and more wholesome than poppy, by collecting not repelling the spirits.

THE drugs like unto poppy, are saffron, and saffron-flowers, the Indian leaf, ambergris, coriander-seed prepared; amomum, pseudamomum, rhodian wood, water of orange blossoms, and an infusion of the flowers steeped in oil of olives, and a nutmeg dissolved in rose-water.

USE poppy sparingly at set times; but these other drugs taken in daily diet are very sovereign to prolong life.

PHARMACOPÆUS in *Calecut*, by using amber, lived to an hundred and sixty years of age; and the nobility of *Barbary*, by using the same drug, are longer-lived than the common people: and our long-lived ancestors used saffron very much in their cakes and broths. So much of thickening the spirits by poppy, and other drugs.

THE second way and means to thicken the spirits, is by cold; for cold does properly thicken, and, by a safer operation and working

ing than the malignant qualities of poppy, though not so powerfully; yet because coolers may be familiarly used in daily diet, they are better to prolong life than drowsy potions or drugs.

THE spirits are cooled by breathing, by vapours, or by diet; the first way is best, but difficult; the second good and easy; the third, weak and tedious.

THE pure clear air, which may be taken on the dry tops of mountains, and in open shady fields, is good to thicken the spirits.

ALSO vapours cool and thicken; and nitre has in this kind a special operation, grounded on these reasons.

NITRE is a kind of spice; being so cold that it bites the tongue as hot spices do.

THE spirits of all drugs naturally, not accidentally cold, are few and weak: spirituous drugs are, on the contrary hot; nitre only having abundance of spirits, is of a vegetable nature and cold. For camphire is spirituous, and cold in operation by accident; and its quality thin, without sharpness, lengthens the breath in inflammations.

ALSO nitre mingled with snow and ice, and put about vessels, congeals and freezes

the liquor within; and common bay-salt makes snow colder, and more apt to freeze. But in hot countries, where no snow falls, nitre is only used.

SEAMEN and soldiers, to make them valiant, drink gunpowder before they fight or join battle, as the *Turks* do poppy.

NITRE allays the destroying heat of burning agues, and pestilential fevers.

THE nitre in gunpowder, shunning the flame when a piece is fired, makes the crack and report.

NITRE is the spirit of the earth; for any pure earth covered or shaded from the sunbeams, so that nothing springs or grows thence, will gather store of nitre; the spirit of nitre being inferior to the spirit of living creatures, of vegetables, and plants.

CATTLE drinking water wherein there is nitre, grow fat, which is a sign that the nitre is cold.

LANDS and grounds are made rank and mellow by the fattening quality of the spirit of nitre which is in dung.

THEREFORE the spirit of nitre will cool, thicken, refresh the spirits, and abate their heat. For as strong wines and spices
do

enflame the spirits, and shorten life, so nitre, composing and restraining the spirits, prolongs life.

NITRE may be used with meat, and eaten with salt to the proportion of a tenth part, and put in morning broths from three grains to ten, or in drink: and being used in any manner moderately, it prolongs life.

As other drugs besides poppy, being weaker and safer to be taken in greater quantity, and oftener, condensate and thicken the spirits by flight; so drugs of an inferior nature and operation to nitre, cool and thicken the spirits.

ALL drugs inferior to nitre smell earthly, like good pure earth newly turned up and digged: the chief whereof are burrage, bugloss, burnet, strawberry-leaves, and strawberries, cucumbers, and fragrant apples, vine-leaves and buds, and violets.

NEXT to these are drugs of a hot smell, but cooling; as balm, citrons, and lemons, green oranges, rose-water, roasted pears, damask and red roses, and musk roses.

THESE fruits, inferior to nitre for thickening the spirits, should be used raw, not roasted, their cooling spirits being dispersed by

fire; therefore to infuse or squeeze them into drink, or to eat or smell to them raw, is best.

THE spirits are thickened also by the odour and smell of other drugs inferior to poppy and nitre: for the smell of pure fresh earth, coming from following a plough, digging or weeding, and the smell of leaves fallen from trees in woods or hedge-rows, at the beginning of Autumn, is good to cool the spirits, and especially withered strawberry-leaves; also the smell of violets, the flowers of pellitory of the wall, blackberries, and madre-felve, is cooling.

A Nobleman of my acquaintance, who lived to be very old, usually after sleep smelled to a clod of fresh earth.

ALSO endive, fuccory, liverwort, purslain, &c. by cooling the blood, cool also the spirits, though not so soon as vapours and smells. So much of thickening the spirits by flight. The third kind of thickening is by delight: the fourth, by the restraint of their cheerfulness, joyfulness, and too violent motions.

THE spirits are mitigated and thickened by such pleasing objects as do not draw them forth, but afford them inward delight; where-
by

by being collected into their center, they enjoy themselves, and find a sweet content.

THE former positions of drugs inferior to opium and nitre being here remembered, further enquiry of thickening the spirits, by cooling, will be needless.

THE restraint of the violent affections and motions of the spirits shall be hereafter declared: now the thickening of the spirits having been shewn, the qualification and temper of their heat follows.

THE spirits should not be hot and sharp, but strong and lusty, to conquer and subdue resisting matter; not to attenuate and expel thin humours.

SPICES, wine, and strong drink must be temperately used, and after abstinence has refreshed the appetite: and also savory, margerum, penny-royal, and all heaters that bite on the tongue, must be seldom used; the heat infused by them into the spirits being not operative, but a devouring heat.

THESE herbs strengthen the heat of the spirits; endive, garlick, blessed-thistle, young cresses, germander, angelica, worm-seed, vervain, set-well, myrrh, pepper-wort, el-

der-buds, and parsley; and used in fauces and medicines, are hot in operation.

ALso of cooling drugs, compounded with euphorbium, bastard-pellitory, stavesacres, dragon-wort, anacardium, oil of beaver's-stone, hart-wort, opoponax, gum of Agafillis and Galbanum, and the like, to allay the drowfy, stupifying power of poppy, a very good medicine to strengthen the spirits, and make them hot and lusty, may be made like treacle and mithridate, being not sharp, nor biting on the tongue, but bitter, and of a strong scent, yet hot in the stomach, or in their operations.

THE desire of venery often stirred up and excited, but seldom satisfied in act, does strengthen the heat of the spirits, and so do some of the affections. So much of the heat of the spirits being a cause of long life.

THE spirits should not abound, but be few and moderate; for a small flame devours not so much as a greater.

A SPARING Pythagorical diet, such as Monks and Hermits, under the order of St. Necessity, and St. Poverty, used, is good to prolong life.

ALso

ALSO drinking of water, hard lodging, cold spare diet of fallads, fruits, powdered flesh, and salt fish, without any fresh warm meat; a hair shirt, fasting, watching, abstinence from sensual pleasures, abate and diminish the spirits, which being reduced to a quantity sufficient to maintain life, do make lesser waste on the body.

BUT a higher diet, kept in an equal, constant manner, has the same operation: for a great, constant, quiet flame consumes not so much as a lesser which blazes but unequally: and *Cornarus Venetus*, keeping such a constant diet, and drinking and eating so many years by just proportion and weight, lived in perfect health until he was an hundred years of age.

ALSO to avoid inflammation of the spirits, a full fed body, not mortified by strict diets, must use seasonable venery, lest the spirits swelling too much, soften and destroy the body.

THE restraint of the spirits motion is next to be considered; for motion makes the spirits hot. There are three restrainers of the spirits, sleep, avoiding violent labour; exercise and weariness; and the governing and mo-

derating of troublesome affections, And first of sleep.

EPIMENIDES slept many years in a cave without any food, because the spirits in sleep devour not much radical moisture.

Also dormice and bats sleep in holes all the winter, thereby restraining the consuming power of their vital spirits: so bees wanting honey, and butter-flies and flesh-flies live by sleep.

SLEEP after dinner, the first vapours of meat like a dew ascending then into the head, is good for the spirit, but unwholesome for the body: and sleep is as nourishing as meat for old folks, who should often take light refectiions, and short naps; and being grown extreme old, should live in continual ease and rest, especially in winter.

Thus moderate sleep, being sound and quiet, prolongs life.

To make one sleep soundly and quietly, violets are good; foddens-lettuce, syrup of roses, saffron, balm, apples eaten before going to bed; a sop dipped in malmsey, wherein a musk-rose has been steeped, a pill or potion made of these ingredients. Also all binding drugs, as coriander-seed prepared,
and

and roasted quinces and pears, cause sound and quiet sleep: but a good draught of clear cold water, is best to make young folks, who have strong stomachs sleep soundly.

VOLUNTARY extasies, and fixed profound meditations, joined with a quiet mind, do thicken the spirits more than sleep, making them rest from outward operations, as sleep does.

VIOLENT, wearisome exercises and motions, as running, tennis, fencing, are not good; nor straining of strength to the utmost, as leaping and wrestling: for the spirits, by such violent nimble motions and muscular exertions driven into a narrow room, become more sharp and prædatory, or devouring; but dancing, shooting, riding, bowling, and such moderate exercises, are very healthy.

SOME of the affections and passions of the mind shorten the life of man, and some cause long life.

By exceeding great joy the spirits are made thin, loose, and weak; but by familiar common recreation they are not dissipated, but strengthened.

Joy arising from sensual pleasure is bad, but the remembrance of former joy, or the apprehension of joy to come, conceived only in the imagination, is good.

AN inward conceived joy, sparingly vented, comforts the heart more than a vulgar, immoderate expression of joy.

SORROW and grief without fear, and not too heavy and grievous, prolong life by contracting the spirits, which is a kind of condensation or thickening.

GREAT fears shorten life; for though both sorrow and fear contract the spirits, yet sorrow does only contract; but fear, mingled with care and hope, heats and vexes the spirits.

ANGER, being close and suppressed is a kind of vexation, making the spirits devour the moisture of the body, but vented, strengthens the heat of the spirits.

By envy, the worst of passions, the spirits, and by them the body, are hurt and weakened, being always in action; for envy is said to keep no holy-days.

PITY and compassion of another's misery, whereinto we cannot possibly fall, is good; but

but pity reflecting back, and exciting fear of being in as bad a case, is hurtful.

SHAME, lightly at the first drawing in the spirits, and afterwards sending them forth again, makes blushing folks commonly long-lived: but shame arising from reproach, and continuing long, contracts and choaks the spirits.

LOVE not unfortunate, nor wounding too deep, being a kind of joy, is governed by the rules prescribed for joy.

HOPE, being the best of all the affections and passions, is very powerful to prolong life, if, like a nodding nurse, it does not fall asleep and languish, but continually feeds the fancy with beholding good objects; and therefore such as propose certain ends to be compassed, thriving and prospering therein according to their desire, are commonly long-lived: but having attained to their highest hopes, all their expectations and desires being satisfied, live not long afterwards.

ADMIRATION and light contemplation are very good to prolong life, keeping the spirits busied in delightful matters, and in a peaceable, quiet, gentle temper: so that all philosophers and observers of the wonders
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of nature, as *Democritus*, *Plato*, *Parmenides*, *Apollonius*, were long-lived. Also rhetoricians, tasting only matters, and following the light of speech, not obscure dark philosophy, were also long-lived, as *Gorgias*, *Prothagoras*, *Isocrates*, *Seneca*: and as old men are talkative, so talkative men often live to be old men; for talkativeness is a sign of a light apprehension, not binding or vexing the spirits: but subtle, acute studies, wearying and weakening the spirits, shorten life. So much of the motion of the spirits by the passions of the mind: some general observations, not included in the former division, now follow.

THE spirits must not be often diffused, nor made thin; for the spirits being once extenuated and dissipated, are not easily collected and thickened. The spirits are wasted by excessive labour, exceeding violent passions of the mind, much sweating, much evacuation, warm baths, and intemperate or unseasonable venery: also care, grief, doubtful expectation, sickness, sorrow, and pain, dissolve the spirits, and should therefore be avoided and shunned.

THE spirits delight in custom and novelties: for customs not used until they grow
wear-

wearisome, and novelties much desired, and then enjoyed, wonderfully preserve the vigour of the spirits: therefore judgment and care should be shewn in leaving off customs before they become loathsome and contemptible; in making the desire of novelties stronger by restraint, and in altering and changing the course of our life, lest the spirits, employed in one settled kind of life, should grow heavy and dull: for though *Seneca* says well, “A fool doth always begin to live;” yet this folly, and many others, lengthen life.

It is observable, contrary to common custom, that the spirits being in a good, quiet, sound temper, discerned by the quietness and inward joy of the mind, should be cherished, not changed.

FICINUS says, that old men should comfort their spirits with the actions of their childhood and youth, being a recreation proper to age: therefore the remembrance of former education together is pleasant in conversation, and the place of education is beheld with delight: so that the emperor *Vespasian* would not alter his father's house, though a
mean

mean building, because the old house put him in remembrance of his childhood: and besides, on festival days he would drink in a silver-tipt wooden cup, which was his grandmother's.

ALSO an alteration of life for the better, is acceptable and delightful to the spirits; therefore youth and manhood having been spent in pleasures proper and peculiar to those ages, old age should enjoy new delights, especially moderate ease. Therefore noblemen in their age should live a retired kind of life, as *Cassiodorus*, having been in great favour with the Gothish Kings of *Italy*, and accounted the soul and life of their affairs, when fourscore years old retired to a monastery, where he died at the age of one hundred and ten. But such retirement should be before the body is decayed and diseased, for then all changes, though for the best, hasten death: and a retired life being undertaken, their minds and thoughts should not be addicted to idleness, but employed in pleasant, delightful studies, or in building and planting.

LASTLY,

LASTLY, the spirits are recreated by labour willingly undertaken, but consumed by action or labour performed with unwillingness: therefore a free kind of life, contrived by art to be at our own disposing, and an obedient mind, not resisting, but yielding to the power of fortune, prolong life.

AND for the better governing of the affections, the body must not be soluble or loose; for on all the affections, except those arising from melancholy, such laxity and looseness has more power, than on the heart or brain.

THIS operation of making the spirits continue youthful and lusty, not mentioned by physicians, has been more diligently handled, because the readiest and most compendious way to prolong life is, by renewing the spirits, working suddenly on the body, as vapours and passions work on the spirits, in a direct manner.

O N T H E

E X C L U S I O N O F T H E A I R .

THE exclusion of the air in two respects lengthens life: first, because the outward air animating the spirits, and being healthful, does, next to the inward spirits, devour the moisture of the body, growing thereby dry and withered.

SECONDLY, by the exclusion of air, the body being shut and closed, and not breathing forth at the pores, the detained spirits by their working, soften the hardness of it.

THE reason is grounded on the infallible axiom of dryness, by the emission and issuing forth of the spirits; but by their detaining, melted and softened. Besides, it is a position that all kinds of heat properly makes thin and moistens, and only accidentally contracts and dries.

DWELLING in caves and dens, the air there receiving no sun-beams, lengthens life; for the air not being excited by heat,
cannot

cannot waste and consume the body. And by divers ancient tombs and monuments in *Sicily*, and other places, it is clearly evident, that the stature of man was greater in former ages than now. *Epimenides*'s cave is an ancient fable: and as living in caves was then usual, so the Anchorites lived in pillars impenetrable by the sun-beams, and the air therefore unchangeable. The Anchorites *Simeon*, *Stilita*, *Daniel*, and *Saba*, living in pillars, were very long-lived: also modern Anchorites have lived in walls and pillars to a great age.

DWELLING on mountains is next to living in caves; for the sun-beams do not penetrate into caves; and on the tops of mountains have no reflection, and little strength: but to dwell on mountains having a clear pure air, and dry vallies, whence no clouds or vapours ascend, like those mountains which encompass *Barbary*, whereon people live to an hundred years of age, is wholesome.

SUCH an air, either in caves or in mountains, is not naturally prædatory, but our common air being of a heating quality, through the heat of the sun, must be kept out of the body.

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THE air is excluded by shutting or filling the pores.

COLDNESS of the air, nakedness of the skin, washing in cold water, binders applied to it, as mastick, myrrh, and myrtle, close the pores of the body.

BATHS also, made of astringent mineral waters, extracted from steel and glass, strongly contract and close the skin, but must be seldom used, especially in summer.

CONCERNING filling; painting, ointments, oils, and pomanders, preserve the substance of the body, as oil-colours and varnish preserve wood.

THE *Ancient Britons* painted their bodies with wood, and were very long-lived; and so were the *Picts*, receiving their name from painting their bodies.

THE *Virginians* and *Brazilians* paint themselves, and are very long-lived; for the *French Friars* lately found there some *Indians* who could remember an hundred and twenty years since the building of *Farnamburg*.

JOHN of *Times* living to three hundred years of age, being asked what preservatives had made him live so long, answered, "Oil without, honey within."

THE *Wild Irish* also live very long, being used to anoint themselves naked before the fire with old salt-petre: and the Countess of *Desmond* bred teeth thrice, and lived to an hundred and forty years of age.

THE *Irish* wear saffroned-linen shirts, which continue long clean, and lengthen life; for saffron being a great binder, oily, and hot without sharpness, is very comfortable to the skin. I remember that an *Englishman* going to sea, and having put a bag of saffron within his doublet, next his breast, to avoid paying of custom, was in that voyage very healthy, having been formerly always sea-sick.

PURE fine linen, according to the advice of *Hippocrates*, should be worn in winter next the skin: in summer coarser linen and oiled; for the spirits being then very much exhaled, the pores of the skin should be closed and filled.

ANOINTING the skin at the first rising out of bed with oil of olives, or of almonds, mingled with bay-salt and saffron, is good to lengthen life. But this must be done lightly with wool, or a soft sponge, not poured on

the body; or instead thereof oiled shirts may be worn.

BUT the *Grecians* and *Romans*, except the fencers, formerly using this anointing with oil, now left off in *Italy*, only after bathing, to close the pores, too open by the heat of the baths, lived only to the usual period; therefore bathing without anointing is unhealthy, but anointing without bathing is very good. Besides, precious ointments were then used for delicacy and delight, not for health, or to lengthen life.

ANointing is good to keep out cold in winter, and the spirits in the summer from scattering, and to defend them from the prædatory power of the air.

IN anointing with oil, four cautions, arising from four discommodities, are to be observed.

THE first discommodity is, that suppressing sweat may breed diseases out of those excrementitious humours, if not prevented by purgations and glisters: for sweating, though healthy, weakens nature, and shortens life; but moderate purgatives work on the humours, not the spirits, as sweat does.

THE second discommodity is, that by heating and enflaming the body, the enclosed
spirits

spirits venting not forth by breathing, may become hot. This inconvenience is prevented by a cool diet, and by often taking such coolers, as in the operation of blood shall be mentioned.

THIRDLY, anointing may make the head heavy, by striking back the obstructed vapours towards it: but purgatives, glisters, and closing the mouth of the ventricle with restrictive binders, and combing and rubbing the head with lye to cause the exhalations, and using exercises to vent humours by the pores of the skin, all prevent this inconvenience.

THE fourth discommodity, being of a more subtle nature, is that by detaining the old and continual generation of new spirits, they would feed on, and waste the body; but this assertion is erroneous; for the spirits from being confined are dull, and slow in motion: besides, this inconvenience may be remedied by coolers, steeped in oil of roses and myrtle; but cassia and heaters must be shunned.

THE linings of apparel for exhausting and drawing the body, should not be of a watery,

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but oily substance; and therefore baize and woollen linings are better than linen: and sweet powders sooner lose their scent among linen, than among woollens; linen being soft and clean, but not so healthy as woollen.

THE *wild Irish* beginning to grow sick, take out the sheets of their beds, and afterwards wrap themselves in the woollen blankets.

CARDED wool worn next the skin, in breeches and doublets, is very good.

ACCUSTOMED air wastes not the body so much as when changed. But in other respects change of air is good to enliven and refresh the spirits. So much for keeping out and avoiding the prædatory power of the air.

THE OPERATION ON THE BLOOD,
 A N D
 COOLING ITS HEAT.

THE two operations following have the same relation to the former, as actives to passives, which endeavour to keep the spirits and air from wasting the body; as these shew how to make the blood, moisture, and body less subject to depredation and wasting. Three powerful rules, concerning the operation on the blood, shall be first propounded.

FIRST, blood, being cold, is less dissipable. There are two coolers more agreeable to the following intentions, than julips or potions.

IN youth, glisters, not purgative or cleansing, but only cooling and opening, made of the juice of lettuce, purslain, liver-wort, fevergteen or house-leek, flea-wort seed, with a temperate opening decoction, mingled with a little camphire: but in age, instead of house-leek and purslain, the juice of borage and endive may be used; and these glisters must be an hour or more retained.

SECONDLY, in summer a bath may be made of sweet lukewarm water, and new whey and roses, instead of mallows, mercury, milk, and such like mollifiers and softeners.

THE third rule only qualifies the substance of the blood, making it firmer and less subject to dissipation, or to the working heat of the spirits.

To effect this, drugs of wood may be safely and effectually used in infusions and decoctions, being good to make the blood fine, and not dangerous for breeding of obstructions; and their infusions taken in diet or drink, having no dregs, easily pierce into the veins.

DRUGS of wood are, sanders, the oak, and vine; but hot woods, having in them any rosin or gum, are not good: but dry rosemary stalks, being a shrub as long-lived as many trees, and such a quantity of ivy-stalks as will not make the potion unsavory, may be used.

DRUGS of wood may be also boiled in broths, infused into ale or wine before they are settled or refined: but guaiacum, and such drugs, must be put in before the broths are boiled, that the substance of the firmer parts
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of the wood, being dissolved, may remain in the broth: but whether ash is good in portions is uncertain. So much of the operation on the blood,

OPERATION ON MOISTURE OF THE BODY.

TWO kinds of bodies, formerly mentioned, are not easily consumed: hard bodies, as metals and stones; fat, as oil and wax.

THEREFORE the moisture of the body must be hardened, and made fat or dewy.

MOISTURE is hardened by firm food; by cold, thickening the skin and flesh; and by exercise, compacting the juice, that it may not be soft and frothy. Animal and farinaceous substances are good for compacting the solids

PURE water, mingled with wine or drink, hardens the moisture of the body; and because the spirit of the water is dull and piercing, nitre may be mingled with it.

MANY thick clothes on the bed, or back, weaken and soften the body.

WASHING the body in cold baths lengthens life; but hot baths are very bad. Baths of binding mineral waters were formerly mentioned.

By an easy idle life, without exercise, the flesh is made diffipable and soft; but by stout exercises, used without excessive sweating and weariness, it is compacted and hardened. Swimming is also a good exercise, and generally all exercises abroad are better than within the house. Frictions supply the want of exercise, and distribute nourishment.

To make hard moisture, oily and dewy is a more perfect work than hardening, being attended with no inconvenience; whereas hardeners of moisture, by staying the consumption, further, and by hindering the reparation, and renewing of nourishment, prevent long life: but oil and juicy nourishment, by bedewing the body, is less diffipable, and more reparable.

To breed this oiliness in the body, roasted or baked meat is better than boiled or stewed, or dressed in any kind with water; more oil being distilled and extracted out of dry substances

stances than moist. And generally all sweet things moisten the body with this oiliness, as sugar, honey, sweet-almonds, pine-apples, pistachio-nuts, dates, raisins, and figs: but all sour, salt, sharp meats, breed no dewy oiliness.

Also feeds, nuts, and roots, the *Maniches* using no other diet, are good with meat and in fauces; for all kinds of bread, being the confirmer of meats, is made of feeds or roots. But drink, as the vehicle carrying down meat, especially moistens and softens the body: therefore drinks not sharp or sour, but ripe and clear, are best, as wine being, as the old woman said in *Plautus*, "toothless with age:" also stale beer and ale, not sharp, but ripe and pleasant.

METHEGLIN, strong and old, is a good drink; but incorporated with sugar instead of honey, which is sharp, would be better, especially after a year, or six months age; the rawness of the water being then gone, and the sugar grown subtle and spirituous. But old wine and stale drink, being subtle, and full of oiliness, are also spirituous and sharp, and not so good; therefore pork or venison well boiled, being laid in vessels of wine,

wine, ale, or beer, the spirits of these liquors feeding thereon, will lose their sharpness.

Also beer or ale, with bread of wheat, barley, and pease; potatoes, bur and other sweet roots, to the quantity of a third part, is better to prolong life, than drink made only of grain.

FLOWERS also, being not sharp or biting, are good sauces and fallads for meat, as ivy-flowers with vinegar, marigold-leaves, and betony-flowers in broths.

TO PROMOTE DIGESTION.

HOW the stomach, liver, heart, and brain, the principal parts and fountains of concoction, may be comforted, and made to perform their offices, by imparting nourishment and spirits to the several parts, and renewing the body, physical rules and prescriptions declare.

THE spleen, gall, reins, midriff, small guts, and lights, as members serving the principal

cial parts, are here to be confidered, becaufe their difeafes may be derived to the principal parts; but by good digeftion, and the foundnefs and ftrength of the principal parts, life is prolonged, and the body nourifhed and kept from decaying in old age.

BUT medicines and diets agreeable to the ftate of bodies, and comfortable to the four principal parts, are prefcribed in phyfic: for medicines are neceffary to recover and preferve health; but life is chiefly lengthened by a good physical diet, prefcribed in thefe choice receipts following.

THE ftomach, refembling the good man of the houfe, and being the caufe of all concoction and digeftion, muft be fortified and ftrengthened, by being kept temperately warm, retentive, and clean, without oppreffive humours; not empty or fasting, being nourifhed by itfelf more than by the veins; and laftly, in appetite, whereby digeftion is fharpener.

WARM drinks are alfo very good: for a famous phyfician would ufually at dinner and fupper, eat a mefs of hot broth very greedily, and afterwards wifh that he could caft
it

it up again, saying, that he needed not broth, but the warmth of it.

At supper, the first cup of wine, beer, ale, or any other kind of drink, must be always warmed.

Sops of bread dipped in wine wherein rosemary and citron bark have been infused with sugar, are better in the middle of meals than wine.

QUINCES are good to strengthen the stomach; but syrup of quinces taken alone after meals, and with vinegar before meals, are better than quinces, which are too heavy for the stomach.

ROSEMARY, elecampane, mastich, wormwood, sage, and mint, are exceeding good for the stomach. Pills of aloes, mastich, and saffron, taken in winter before dinner, are also very good; the aloes being first washed in rose-water, the infusion of dragant in vinegar, and then dissolved in sweet fresh oil of almonds.

AN infusion of wormwood, with a little elecampane and sanders, may be sometimes used in winter.

IN summer, a draught of white wine of the infusion of powder of pearl, and powder
of

of river crawfish shells, and a little chalk, very much refreshes and strengthens the stomach.

BUT all cold morning draughts commonly used, as syrups, decoctions, whey, beer, or ale, are unwholesome, coolers being not good for an empty stomach; but five hours after dinner, and an hour after a light breakfast they may be used.

FASTING often is bad for long life; and so is also all kinds of thirst: for the stomach must be kept clean, but always moist.

THE anointing of the back-bone, over against the mouth of the stomach, with good fresh oil of olives, in a solution of mithridate, is very comfortable for the stomach.

A bag of wool steeped in sharp wine, after the infusion of myrtle, citron bark, and a little saffron, is good to be worn always next the stomach.

THE liver must be kept from inflammation, being subject to dryness, and obstructions in age.

To the rules laid down, delivered in the operation of blood, these choice prescriptions may be added.

POME-

POMEGRANATE-WINE, or pomegranate-juice newly squeezed into a glass, may be taken in the morning with some sugar, and a little citron bark, and three or four whole cloves, from February to the end of April.

ALOE^s washed, and allayed, is hurtful to the liver; therefore not commonly to be taken. Rhubarb dissolved in sweet oil of almonds, and rose-water, are good for the liver, being taken before meat, because a dryer, and at several times, either alone with tartar, or a little bay-salt, left by purging away the thin matter, the humours should become tougher and harder.

TAKE the decoction of steel twice or thrice a year to loosen obstructions and stoppages in the liver; two or three spoonfuls of oil being first taken, and the body, especially the arms and fore part of the stomach, afterwards stirred by exercise.

SWEET drinks keep the liver from growing dry, especially incorporated and made of sweet fruits and roots, as raisins, jujubs, dry figs, dates, parsnips, potatoes, and liquorice. Also drink made of Indian maize, and other sweet compounds is very good. It is an observation, that the keeping of the
liver

liver fat and soft lengthens life, and the opening of the liver procures health, in obstructions joined with inflammations: so much of strengthening the liver.

A good air is better known by experience than signs. The best air is on a level, open plain, the soil being dry, not barren and sandy, but naturally bearing wild betony, featherfew, and wild mints, shaded with some trees, and black-berry-bushes, and watered with no great river, but with clear gravelly brooks. The morning air is more healthy than the evening air, which is accounted more pleasant.

An air somewhat rough, and stirred with a gentle wind, is better than a calm clear air; and in the morning the west wind is best, but the north wind in the afternoon.

SWEET odours and smells are very comfortable to the heart, yet a good air hath not always a good smell; for as pestilential airs have no very bad smell, so oftentimes wholesome airs are not very sweet and fragrant, but the odour and scent of a good air should be interchangeably taken, for one continual excellent odour or scent oppresses the spirits. Nofegays are good in the open
air

air, but growing flowers yeild the best odours and scents: also walking and sitting in such sweet air is very good.

Cooling smells are better for the heart than hot scents; therefore in the morning and at noon, the steam of perfumes made of vinegar, rose-water, and wine put into a brass-pan, being received into the brain, is very good. Wine poured on the earth when digged, yeilds a good scent and smell. Also orange-flour water mingled with rose-water and brisk wine, being smelled to, or infused into the nostrils, is very good.

Small pills made of amber, musk, *Lignum Aloes*, *Lignum Rhodium*, flower de luce roots, roses, rose-water, and Indian balsam being chewed, and held in the mouth, are comfortable for the heart and spirits.

Vapours arising from medicines taken inwardly to strengthen and cherish the heart, must be wholesome, clear, and cooling, hot vapours being bad, for wine yeilding hot vapours, is like poppy in quality.

The chiefeft cordials used in diet are ambergris, saffron, kermes, being hot and dry; and for coolers buglofs and borage-roots, lemons and apples.

OBSERVE also that great, constant and heroical desires, strengthen and enlarge the heart.

OPIUM, nitre, and other inferior drugs procuring sleep, are good for the brain, being the seat and residence of the animal spirits, and protected or annoyed by the stomach: therefore stomach cordials are comfortable also to the brain.

BATHE the feet every week in a bath made of lye, bay-salt, sage, chamomile, fennel, sweet marjoram, and angelica leaves.

SUFFUMIGATIONS also, or perfumes of dry rosemary, dry bay-leaves, and lignum aloes; (for sweet gums oppress the head,) are good every morning.

No hot drugs or spices, except nutmegs, may be outwardly applied, to the head, but to the soles of the feet, anointing the head lightly with oil, rose-water, myrtle-water, salt, and saffron mingled together, is very good.

A morning potion of three or four grains of oil, of Bezoars stone, with a little angelica seed and cinnamon, once in fourteen days, being taken in the morning strengthens

the brain, and thickens and quickens the spirits.

All these cordials taken in diet comfort the brain; variety of medicines being the daughter of ignorance; many dishes breeding many diseases, and many medicines effecting few cures. And so much of the operation on the principal parts for extrusion and driving out of nourishment.

TO PREPARE THE OUTWARD PARTS

FOR

ATTRACTING NOURISHMENTS.

GOOD digestion of the inward parts, being the chief cause of good nourishment, the outward parts must also perform their offices and duties, by attracting the nourishment from digestion.

THE outward parts by bodily exercise comforted and warmed, cheerfully attract nourishment.

nourishment. The exercises attracting new moisture to the limbs, being violent, loosen them, and consume the old moisture.

EXERCISE, by chafing the limbs, is also very good when moderate, for the body must not respire, nor sweat too much by rubbing or exercise. Therefore it is better abroad than in the house, and in winter than in summer.

EXERCISE on a fasting stomach by sweating, waste the spirits and moisture of the body, and being unhealthful on a full stomach, is best after a light breakfast, not of physical morning potions, or raisins or figs, but plain meat and drink moderately taken.

EXERCISE must stir all the body, not the knees or arms only, but generally all the limbs of the body, and the posture should be every hour changed, except in sleeping.

FOOD AND DIET.

PHILOSOPHERS might better than physicians follow common opinion, in condemning many services and messes of meat, as not lengthening life, but preserving health; for a heterogeneous mixture of meats, more readily nourishes the veins, breeding better moisture than one kind of meat: moreover, variety excites the appetite, and the appetite sharpens digestion. So that a various kind of diet according to the seasons of the year, is approved.

Good fauces are wholesome preparatives to meat, preserving health, and prolonging life.

COURSE fare requires strong drink and piercing fauces that may sink into the meat; but with fine fare, small drink is best, and fat fauces.

BOILED meat dressed with moist cooling fauces, does not moisten the body, though good in hot sicknesses, but affording no oily nourishment;

nourishment; boiled meats being not so good as roasted or baked with a quick fire.

SOLID meats so corned with salt, that little or no salt need be eaten therewith at the table, is good, salt meat being better for digestion, than salt eaten with meat.

BREAD well leavened, but lightly salted in a very hot oven, is best.

MEAT and drink dissolved and mingled together, is easy of digestion. Therefore chickens, partridges, or pheasants, first par-boiled with water and salt, then wiped, dried and boiled to a jelly, in wine or ale with some sugar, makes a strong comfortable broth.

To exceed sometimes in the quantity of meat and drink, and to water the body by great feasts and liberal drinking, is sometimes good.

THE OPERATION ON THE
LAST ACT OF ASSIMILATION,

THE nature of the last act of assimilation or converting into the like substance, being the intended effect of the three former operations, may be opened and declared without rules.

ALL bodies desire to assimilate and convert substances into their own kind. Flame, spirit, and air, being thin and spirituous, do courageously perform this work, but thick and gross substances very weakly; this desire of assimilating being restrained by a stronger desire of rest and ease,

FOR this desire of assimilating, restrained in the body, is ineffectual until it be by heat and spirit freed, excited and actuated; and therefore lifeless bodies do not assimilate, and living creatures assimilate, digest, and convert into their own substance.

MORE heat is required to make hard bodies assimilate and digest, therefore the parts of the body grown hard with age, must be softened

softened; and heat, then weak encreased, for helping digestion.

For increasing heat take this rule or axiom.

THE act of assimilation incited and provoked by heat, a very accurate subtile motion, and most powerful, when bodily motion, the disturber thereof, ceases. For a substance of one kind will not separate into parts of divers kinds, being moved; as curd will not rise, nor the whey sink down, the milk being gently stired. Also running water, nor any water or liquor will not putrefy, being continually moved and shaken. Therefore by this reason this conclusion is inferred.

ASSIMILATION is performed and perfected chiefly in sleep and rest, especially towards morning, after good digestion.

ON MAKING THE BODY TENDER AND Y O U N G.

BATHS and oils soften lifeless bodies, attracting and sucking in liquors, but not living bodies. Therefore common

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mollifying, softening baths, rather draw than soften, and loosen rather than harden the body.

BATHS may be made of nourishing substances, like man's body, as the fat of beef, hogs and deer, oysters, milk, butter, whites of eggs, wheat-flour, sweet-wine, sugar and metheglin.

WITH these ingredients, bay salt and old wine may be mingled, to make them penetrate and pierce into the body.

BINDING ingredients being oily and comfortable, saffron, mastick, myrrh, and myrtle-berries make an excellent bath.

FOR the powerful working of this bath, four rules are observable.

FIRST before bathing, rub and anoint the body with oil and salves, that the baths moistening heat and virtue, may penetrate into the body, and not the watery part; then sit two hours in the bath; after bathing wrap the body in a sear cloth made of mastick, myrrh, pomander, and saffron, for staying the perspiration or breathing of the pores, until the softening of the body having lain thus in sear-cloth twenty-four hours, be grown solid and hard. Lastly,
with

with anointment of oil, salt and saffron, the fear-cloth being taken off, anoint the body.

IN bathing, a good diet must be kept, and warmth and warm drinks used.

ON RENEWING THE MOISTURE OF THE BODY.

FOR this purpose diets of guiacum, sarsaparella, china-root, and saffraſas, being long ſtrictly kept, do firſt attenuate or make thin, then conſume or devour all the moiſture of the body; for the French pox being grown to gummineſs, and being got into the marrow and moiſture of the body, has been thereby cured. Some alſo by ſuch diets being made lean and pale, have afterwards grown fat and freſh-coloured, Therefore in the declining of age, ſuch diets are good to be kept once in two years, thereby to grow young again, as the ſnake does by caſting his ſkin.

It is my opinion, though I am no heretical puritan, that purgations often and familiarly

liarily used, lengthen life more than exercise or sweating. For as anointing the body, stopping the pores, keeping out the air, and keeping in the spirits, lengthens life; so by sweatings and outward breathings, the good spirits and moisture being not easily repaired, are exhaled and consumed with the excrementitious humours and vapours. But gentle purgatives not griping the belly, being taken before meat to prevent their drying quality, work chiefly on the humours.

CAUSES AND SYMPTOMS OF DEATH.

THE living spirit subsists by due motion, temperate, cooling and fit nourishment. A flame needs only motion and nourishment, being a simple substance; the spirit, a compounded substance, destroyed by approaching nearer to the nature of flame.

BLOOD or phlegm getting into the ventricles of the brain, causes sudden death, the spirit having no place of residence or motion.

ALSO

ALSO violent fractures and beating of the head cause sudden death, by straitening the spirits in the ventricles of the brain.

OPIUM and other strong drugs, procuring insensibility, do by thickening the spirits, deprive them of motion.

VENOMOUS vapours being hateful to the spirits are deadly poisons, by whose malignant quality the spirits are oppressed, deprived of their motion, and made unable to resist so strong an enemy.

EXTREME drunkenness and gluttony have caused sudden death, the spirits being oppressed, not with malignant vapours, but by redundancy of vapours.

WITH the sudden apprehension of grief and fear, conceived at the relation of unexpected bad tidings, some have died suddenly.

THE excessive compression, and enlarging of the spirits, are both deadly.

GREAT and sudden joys have deprived many of their life.

ALSO great evacuations of water, by incisions for the dropsy ; or violent and sudden fluxes of blood, are deadly.

STOPPING the breath, is, through defect of cooling, deadly, by choaking and strangling,
the

the motions of the spirits being not hindered, but cooling defective; for excessive hot air drawn in for breath, choaks as soon as stopping of the breath. As by burning charcoal, or by the smell of new whited walls in a close chamber, *Justinian* and others have been choaked. *Fausta* the wife of *Constantine* the great, was strangled by the steam of an exceeding hot bath.

For breath is drawn in by the lungs, and breathed forth again every third part of a minute.

THE beating of the pulse, and of the heart, both by the systole, or backward motion, or diastole or forward motion, is thrice as swift as breathing; for the beating of the heart, being staid would cause death sooner than strangling.

DELIAN divers, and pearl fishers, through continual use will hold their breath ten times longer than another.

LIVING creatures having lungs, hold their breath a shorter or longer time, as they need more or less cooling.

FISHES need less cooling than other creatures, cooling and breathing themselves at their gills. And as other creatures cannot endure

endure a hot close air; so fish in water quite frozen over, and long covered with ice, are choaked and strangled.

THE natural heat of the spirits is oppressed by another more violent heat, being unable to endure them both without cooling, as may be seen in burning fevers, natural heat being extinguished and dissipated by hot putrified humours.

WANT of sleep is a want of cooling. For motion rarifies, makes thin, sharpens and encreases the heat of the spirits. But by sleep their motion is allayed, and their wandering restrained. For sleep strengthens and excites the working of the inward parts and spirits, and all outward motion, but makes the living spirit rest from motion; every 24 hours nature requires 5 or 6 hours sleep. Though some have miraculously refrained from sleep, for *Mecænas* slept not a great while before he died.

DEAD bodies kept from putrefaction, will not decay for a long time; but living bodies cannot subsist above three days, this speedy consumption, being the work of the living spirit, repairing itself, or making the parts need repairing; and therefore living crea-
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tures

tures by sleeping endure longer without food, sleep being the reception and collection of the living spirit.

THE ordinary necessities of nature are these, continual motion of the spirits in the ventricles of the brain, beating of the heart every third part of a moment, breathing every moment, sleep and food within three days, the decay after fourscore years of age of the faculties of digestion; these defects being not seasonably supplied, death will ensue. So that death has three doors, the spirits failing in motion, cooling, and nourishing.

THE living spirit is not like a flame, continually lighted and extinguished, without certain duration and continuance. Therefore the living spirit is of a middle nature between flame, being a momentary substance, and air being a fixed substance.

THE destruction of the organs of the spirits either by diseases or violence, is another door of death; and so much of the form of death.

CONVULSIONS of the head and face, with deep deadly sighing, being a kind of convulsion, and the extreme quick beating of the pulse,

pulse, the heart trembling with the pangs of death; and sometimes again beating weakly and slowly as the heat begins to fail and faint, are two chief signs of death.

THE immediate signs of death are great unquietness, tumbling and striving, raking with the hands, as if gathering locks of wool, striving to take hold, and holding fast, hard shutting of the teeth, rattling in the throat, trembling of the under-lip, pale countenance, confused memory, speechlessness, cold sweats, stretching out the body, lifting up the white of the eyes, and an alteration of the whole face, (the nose becoming sharp, the eyes hollow, and the cheeks falling) with the contraction and convulsion of the tongue, coldness of the lower parts, and sometimes issuing of blood, or seed, loud shrieking, short breathing, the falling of the lower jaws, and the like.

To raise and recover to life such as faint and fall into a swoon (in which fits many without help would expire) use hot waters, bend the body forwards, stop the mouth and nostrils hard, bend and wring the fingers, pluck off hair from the beard or head, rub and chafe the body, especially the face and
outward

outward parts, cast cold water suddenly in the face, shriek out aloud, hold rose-water and vinegar to the nostrils : burning feathers and woollen cloth for the hysterics, also the smoak of a hot frying pan is good in swooning, and keeping the body close and warm.

THAT many laid forth, coffined and buried, were only in a swoon, has been discovered by digging them up again, and finding their heads beaten and bruised with striving in the coffin. Of such a living funeral, *John Scotus*, that subtile scholar was a memorable example, who by his servant (absent at his burial, but acquainted with those fits wherein he falling, was supposed to be dead, and so buried,) being digged up again, was found in that manner, with his head and other limbs beaten and bruised.

F I N I S.



